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AN UNDESCRIBED FEVER RESEMBLING VARICELLA AND RICKETTSIALPOX

PRELIMINARY REPORT OF 11 CASES SEEN IN THE TRANSVAAL

L. J. A. LOEWENTHAL, M.D., M.R.C.P. D.T.M. & H.

In August 1949 I was asked to see a young man (Case 1) possibly suffering from smallpox. This diagnosis was unlikely, in my opinion, and was excluded on clinical grounds by Drs. Loots and Horwitz of Rietfontein Hospital. There remained the question of what disease the patient actually presented. It resembled most nearly the condition described in New York as rickettsialpox, but this diagnosis could not be substantiated serologically (see later) and was abandoned. Since then 10 similar cases have been seen by my colleague, Dr. S. Gordon, and myself, and their special features lead me to believe that we are dealing with a hitherto undescribed entity.

DESCRIPTION

The disease is a febrile one, and is associated with an asymmetrical regional enlargement of lymph nodes, usually in the occipital and posterior cervical regions, and a varicelliform eruption appearing on the third or fourth day. It has been seen in children (youngest aged 3) and young adults (oldest 20), of both sexes. The eruption is usually complete in 24 hours, but some cases show a few fresh lesions for a further day. It dries and scabs rapidly and has disappeared within a week of onset. The first case is reported in detail and minor variations seen in others are detailed subsequently.

Case I. Male European aged 19. Previous illnesses included measles, mumps, tick-bite fever and chicken-pox, the last-named vouched for by the medical practitioner now in attendance.

14 August 1949. He felt sleepy in the afternoon, and as though in for an attack of 'flu'.

15 August. He felt worse in the morning, with severe headache and joint pains. Rectal temperature, 101° F.

16 August (morning). The right mastoid gland felt enlarged. Temperatures all taken rectally, 102.5° F.

In the afternoon enlargement of other cervical glands was noticed.

He was feeling ill all day with occasional rigors.

17 August (morning). A pimply rash appeared on the face and chest and slight itching was felt in the lesions. As the patient was subject to mild acne, the number and extent of the lesions was not accurately noted.

18 August (morning). The headache was gone. The rash was more profuse and the patient complained of a sore throat. *On Examination:* i. *Integument.* A small, barely indurated, dried vesicle was found on the right occiput (Fig. 1) with a black central eschar.

The scalp, face and trunk were the sites of a papulo-vesicular eruption, the hands and feet being spared. The individual lesions, which had all erupted during the previous 24 hours, comprised papules, clear vesicles and umbilicated pustules, all on an erythematous base, measuring from ¼ to ½ inch in diameter (Figs. 2 and 3).

ii. *Mucous Membranes.* An oval, superficial ulcer was present on the centre of the posterior pharyngeal wall, at the level of the uvula. It measured about ¼ x ¼ inch.

iii. *General.* The right mastoid, occipital and posterior cervical lymph nodes were grossly enlarged (Fig. 4). The lymph nodes elsewhere in the neck and in the groins and axillae were barely palpable. Further examination was negative. The spleen was not felt.

Certain laboratory investigations were instituted on this day. Their results are shown separately.

20 August. The temperature was normal all day. Vesicles spots appeared. The throat was still sore.

20 August. The temperature was normal all day. Vesicles and pustules were beginning to dry. All lymph nodes were subsiding.

21 and 22 August. Temperature remained normal. The last (mastoid) enlarged lymph node was still palpable.

Laboratory Investigations: 18 August. The blood standard Kahn test gave a negative result.

The Paul-Bunnell test (Barret modification) for glandular fever gave a negative result.

A blood count (venous blood) gave the following results: Erythrocytes 5.3 million per c.mm. Haemoglobin 19 gm. %. Colour Index, 0.99. Leucocytes 8,800 per c.mm. Polymorphs (neutrophil), 57%; Monocytes, 1%; Lymphocytes, 42%.

The stained blood cells appeared normal. Atypical lymphocytes were not observed. A throat swab showed no

Vincent's organisms and cultivation yielded no growth after 48 hours' incubation.

19 August. The contents of a pustule were sterile on incubation. Tests for virus were negative by mouse-brain inoculation.

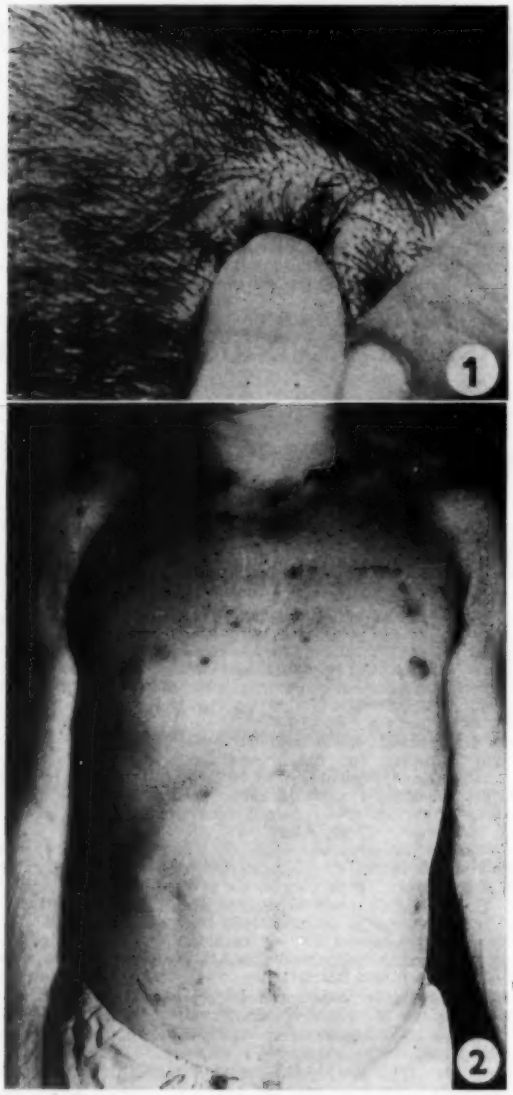

Fig. 1 (Case 1). Dried vesicle on occiput.
Fig. 2 (Case 1). Distribution or eruption on trunk.

At the end of September blood serum was tested for complement-fixation against antigens of all available local rickettsial strains and against rickettsialpox antigen. The results were negative.

The other cases differed only in degree from Case 1. In some the eruption was purely varicelliform, without umbilication of larger pustules; in others some of the primary papules regressed without becoming vesicular. In one case the eruption on the back was so dense that hardly any normal skin was visible between lesions.

Four of the eleven cases had a history of previous varicella, vouched for by competent practitioners.

SUMMARY OF PRINCIPAL FEATURES

1. The disease is ushered in by 3 or 4 days' malaise.
2. Early asymmetrical enlargement of lymph nodes, usually occipital and posterior cervical, is the rule.
3. The buccal mucosa is invariably affected on the first day of the eruption.
4. The eruption is complete in from 24-48 hours and dries up in 8 days from the day of the first symptom.

DIFFERENTIAL DIAGNOSIS

The main points of differentiation are listed concisely.

1. *Varicella.* (*a*) The disease here described is ushered in by several days' malaise and asymmetrical enlargement of the lymph nodes.

(*b*) The stage of eruption lasts for a maximum of 48 hours.

(*c*) Fully developed lesions tend to be of three kinds, viz. papular, varicelliform and varioliform.

(*d*) In four cases the patients had previously suffered from typical, well attested varicella.

2. *Variola.* (*a*) See under *Varicella* (*a*).

(*b*) The patients' state of previous vaccination was satisfactory.

(*c*) No smallpox contacts were reported.

3. *Kaposi's Varicelliform Eruption* (*K.V.E.*). (*a*) K.V.E., which is regarded as a form of disseminated herpes simplex, affects predominantly sufferers from other skin complaints, especially atopic dermatitis. None of the cases under review were so affected.

(*b*) K.V.E. (of which several cases have recently been described by Anderson,[1] Varley and Kletz[2] and Leverton and Whitlock[3]) has a duration of one to three weeks, and fresh lesions continue to appear for several days (Barker and Hallinger[4]).

(*c*) K.V.E. shows a tendency to grouping of lesions (Lynch and Steves[5]).

(*d*) Lesions of the buccal mucosa have rarely been noted in K.V.E.

4. *Generalised Vaccinia.* This condition, until recently confused with Kaposi's Varicelliform Eruption, has a similar clinical picture and its differential features are therefore the same. In addition, a history of recent vaccination or contact with a recently vaccinated person is forthcoming.

5. *Rickettsialpox.* The clinical manifestations of this disease were adequately described by Greenberg, Pellitteri, Klein and Huebner.[6] It has been encountered in a limited area of New York City and is known to be caused by *Rickettsia akari,* which in its turn is transmitted by a rodent mite, *Allodermanyssus sanguineus.*

The disease described in this contribution is clinically similar to rickettsialpox, but differs as follows:

(*a*) A suspected initial lesion was found in only one of the eleven cases. Barker[7] found it in 11 of 12

Fig. 3 (Case 1). Detail of lesions.

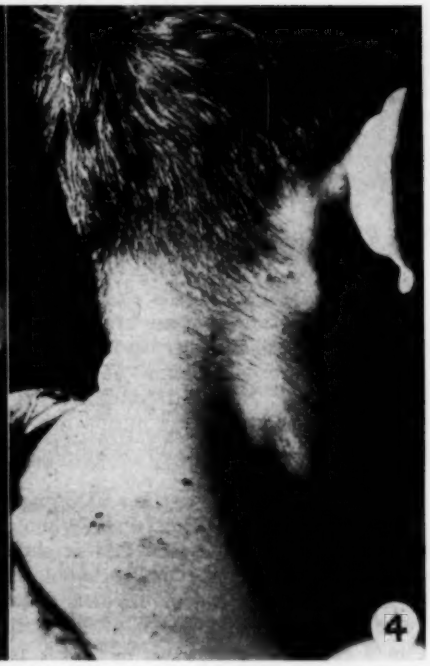

Fig. 4 (Case 1). Cervical adenopathy and eruption.

patients and quotes similar findings in other series of New York rickettsialpox cases.

(*b*) Patients with rickettsialpox usually show higher temperatures over a period longer than that observed in my cases, and a substantial number complained of rigors, sweats, severe headache, vomiting and other toxic manifestations.

(*c*) Local cases were scattered over a large area, and showed no evidence of the focal outbreaks usually associated with arthropod parasites of rodents.

(*d*) Preliminary laboratory studies of fresh material showed nothing suggestive of rickettsial infection in my cases.

(*e*) Blood serum from Case 1 gave a negative complement fixation result with rickettsialpox antigent sent from New York.

LABORATORY STUDIES

Drs. J. H. S. Gear and A. Zoutendyk, of the S.A. Institute for Medical Research, attempted to isolate a virus from vesicular lesions in three cases. These preliminary studies were negative. Their studies suggest that a rickettsia is probably not the responsible organism.

NOTE ON A POSSIBLE ABORTIVE FORM OF THE DISEASE

Dr. R. C. de Kock, of Johannesburg, informed me that he had seen several cases of asymmetrical enlargement of the occipital lymph nodes with fever and without exanthem. These cases occurred during the same period as the cases discussed above. Laboratory investigations, including the Paul-Bunnell test for infectious mononucleosis, were consistently negative.

SUMMARY

1. A febrile illness associated with a 'pox' exanthem and enanthem has been seen in 11 cases in the Transvaal.

2. Clinically it bears a close resemblance to the rickettsialpox of New York, but preliminary laboratory studies do not support the view that the two diseases are identical.

3. It is suggested that a new disease is here described.

The writer wishes to record his indebtedness to Drs. E. Hirschmann, I. Silove and A. M. Goldberg, who allowed him to see the first three cases; to Drs. Sims, Gluckman and Bloomberg who made certain investigations and obtained rickettsialpox antigen from the U.S.A., and to Drs. J. H. S. Gear and A. Zoutendyk, of the S.A. Institute for Medical Research, who are carrying out virus studies.

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EDITORIAL

CRIME AND THE TREATMENT OF OFFENDERS

MEDICAL ASPECTS

Social psychology is now seeking to bring into the field of medicine, and to consider in the light of scientific knowledge, those anomalies of behaviour which, in an acute stage, can lead to crime. It is also tending to regard delinquents as misfits in social life, capable of being rehabilitated by medical treatment or by socio-medical action.

How far can this scientific conception of crime be accepted? What are the causes of crime? What are the means of preventing it? What treatment should be given to offenders? These are the questions considered by Dr. M. S. Guttmacher, Chief Medical Officer, Medical Service of the Supreme Bench of Baltimore, Md., U.S.A., in a report prepared for WHO for presentation to the Social Commission of the United Nations. This report has now been published in the *Bulletin of the World Health Organization* under the title *Medical Aspects of the Causes and Prevention of Crime and of the Treatment of Offenders.*[1]

Looking at the various aspects of the problem from the biological point of view, the author refers to the view held by geneticists that a criminal tendency is not hereditary. Studies on crime in identical twins have not produced any conclusive results. Moreover, theories attributing the origin of criminality to congenital syphilis or functional disorders of the pituitary or thyroid glands are no longer acceptable. Nevertheless, mental instability and physical inferiority are often found among criminals. Finally, there is a group of chronic delinquents, who are psychopaths, with deep-rooted character disorders. Although generally well endowed intellectually, they suffer from a total lack of moral conscience, probably congenital, which may be considered as an actual structural deficiency. Their criminal activity is caused by subconscious forces which they are unable to control.

Despite these indications, the role of biological factors has not been clearly enough delineated for the problem of the prevention of crime to be approached usefully from the eugenic angle. On the other hand, the influence of the economic and social environment has been widely acknowledged, and it is along these lines that measures to prevent crime should be directed. Dr. Guttmacher treats this aspect of the matter at

1. Bull. World Hlth. Org., 1949, **2**, 279.

VAN DIE REDAKSIE

MISDAAD EN DIE BEHANDELING VAN OORTREDERS

MEDIESE ASPEKTE

Maatskaplike sielkunde probeer nou daardie gedragsverskynsels wat in 'n akute stadium tot misdaad kan lei, binne die gebied van die medisyne bring en dit in die lig van wetenskaplike kennis oorweeg. Dit vertoon ook 'n neiging om oortreders as mense te beskou wat nie by die maatskaplike lewe inpas nie en wat deur mediese behandeling of maatskaplik-mediese optrede gerehabiliteer kan word.

In hoe 'n mate kan hierdie wetenskaplike opvatting van misdaad aanvaar word? Wat is die oorsake van misdaad? Deur watter optrede kan dit voorkom word? Watter behandeling moet oortreders ontvang? Hierdie vrae word oorweeg deur dr. M. S. Guttmacher, Geneeskundige Hoofbeampte, *Medical Service of the Supreme Bench of Baltimore*, Md., V.S.A., in 'n verslag wat hy vir die Wêreldgesondheidsorganisasie opgestel het om aan die Maatskaplike Kommissie van die Verenigde Volke voorgelê te word. Hierdie verslag is nou in die *Bulletin of the World Health Organization* gepubliseer met die titel *Medical Aspects of the Causes and Prevention of Crime and of the Treatment of Offenders.*[1]

Wanneer hy hierdie verskillende aspekte van die vraagstuk vanuit die biologiese gesigspunt beskou, verwys die skrywer na die mening van genetici dat 'n misdadige neiging nie oorerflik is nie. Ondersoeke in verband met misdaad by identiese tweelinge het geen deurslaggewende resultate opgelewer nie. Daarbenewens is teorieë wat die oorsprong van misdadigheid aan ingebore sifilis of funksionele gebreke van die harsingslymklier of die skildklier toeskryf, nie meer aanvaarbaar nie. Nietemin word geestelike onbestendigheid en liggaamlike minderwaardigheid dikwels by misdadigers aangetref. Laastens is daar 'n groep kroniese misdadigers wat psigopate is en diepgewortelde karaktermoeilikhede het. Alhoewel hulle gewoonlik verstandelik goed bedeeld is, ly hulle aan 'n volslae gebrek aan morele gewete wat waarskynlik ingebore is en wat werklik as 'n struktuurgebrek beskou kan word. Hulle misdadige bedrywighede word veroorsaak deur magte van die onderbewussyn wat nie deur hulle beheer kan word nie.

Ten spyte van hierdie aanduidings is die rol wat biologiese faktore speel nog nie duidelik genoeg bepaal sodat die vraagstuk van die voorkoming van misdaad met goeie gevolg vanuit die oogpunt van rasverbetering benader kan word nie. Aan die ander kant word die invloed van ekonomiese en maatskaplike omgewing algemeen erken en dit is in hierdie rigting dat maatreëls

1. Bull. World Hlth. Org., 1949, **2**, 279.

length, taking as a basis numerous enquiries, studies and analyses, all of which show that many abnormalities of character date back to childhood conflicts or are caused by maladjustment to family or social life. It is the duty of the family, from earliest childhood and later during school years, to keep watch over the child's psychological development and his integration into the life of the community. The modern school system should therefore have at its disposal child-guidance clinics.

There are two aspects to the treatment of offenders. The first is concerned with the application of general medical measures to improve the physical health of the criminal and to make his rehabilitation easier. Even surgical treatment, such as prefrontal lobotomy or castration, the latter for sexual offences, has been advocated. These methods, however, might become socially dangerous if applied.

The other type of treatment is psychiatric. A prison atmosphere is hardly suitable for individual psychotherapy, but group psychiatric treatment has given encouraging results. Under the collective pressure of a group of fellow-prisoners, certain criminals who resist individual therapy recognize the truth of certain principles.

In conclusion, the author believes that it is impossible as yet to foresee what can be accomplished by psychiatry, a relatively new branch of medicine, towards solving the problem of crime. According to him it is essential that research should be carried on within the framework of the universities, in conjunction with institutes and centres for criminal psychiatry. Only by the co-ordinated work of sociologists, economists, anthropologists, psychologists, lawyers and psychiatrists, can a rational system for the prevention and treatment of crime be established.

om misdaad te voorkom, getref moet word. Dr. Guttmacher behandel hierdie sy van die saak breedvoerig en neem as grondslag talle navrae, ondersoeke en ontledings wat almal aantoon dat baie karakter-abnormaliteite teruggaan tot jeugkonflikte of veroorsaak word deur wanpassing by die gesins- of maatskaplike lewe. Dit is die plig van die gesin om vanaf die vroegste kinderjare en later gedurende die skooljare, 'n oog oor die kind se sielkundige ontwikkeling en sy inpassing by die lewe van die gemeenskap te hou. Die moderne skoolstelsel behoort dus kinderklinieke tot hulle beskikking te hê.

Daar is twee sye aan die behandeling van oortreders. Die eerste het te doen met die toepassing van algemeenmediese maatreëls om die liggaamlike gesondheid van die misdadiger te verbeter en om rehabilitering te vergemaklik. Selfs snykundige behandeling soos die afsny van die voorste lob van die brein of kastrering, laasgenoemde vir geslagsmisdade, is bepleit. Hierdie metodes kan maatskaplik gevaarlik word indien hulle toegepas word.

Die ander tipe van behandeling is psigiatries. Die tronkatmosfeer is nouliks vir psigoterapie geskik, maar psigiatriese groepbehandeling het bemoedigende resultate gelewer. Onder die kollektiewe druk van 'n groep mede-gevangenes herken sekere misdadigers wat teen afsonderlike behandeling weerstand bied, die waarheid van sekere beginsels.

Ten slotte glo die skrywer dat dit nog onmoontlik is om te voorsien wat deur psigiatrie, wat nog 'n betreklike nuwe vertakking van geneeskunde is, tot die oplossing van die misdaadvraagstuk bygedra kan word. Volgens hom is dit noodsaaklik dat navorsing binne die omlysting van die Universiteite, in samewerking met institute en sentrums vir misdadige-psigiatrie gedoen moet word. Slegs deur die werk van sosioloë, ekonome, antropoloë, sielkundiges, regsgeleerdes en psigiaters te koördineer, kan 'n goeie stelstel vir die voorkoming en behandeling van misdaad in die lewe geroep word.

A CASE OF THE FANCONI-DE TONI SYNDROME (CYSTINE DISEASE)

B. G. v. B. MELLE, M.B., CH.B., F.R.C.S., EDIN.,
Transvaal Memorial Hospital for Children.
and
H. D. BARNES, M.Sc.
Biochemical Department, South African Institute for Medical Research, Johannesburg

During recent years cases of renal rickets have been found to fall into two groups which can be fairly sharply differentiated by a number of clinical and biochemical criteria. Fanconi (1936) focussed attention on one of these under the name of Nephrotic Glycosuric Dwarfism with Hypophosphataemic Rickets and put forward the hypothesis that a failure of renal tubular re-absorption was the primary pathological basis. A similar case had already been described by de Toni and the condition was given the eponym of the Fanconi-de Toni syndrome. Other cases were reported by several paediatricians and an extensive review was published by McCune and others (1943). A very full study of a case in a coloured girl aged 13 by Linder and others was reported recently in South Africa (1949). In view of this contribution it becomes unnecessary to go into the details of the disease. Briefly, the condition is characterized by vitamin D resistant rickets usually

showing in the first or second year; in the blood, calcium and urea are within normal limits, inorganic phosphorus is low and phosphatase high; the urine contains albumin, sugar and casts and amino acids are present in considerable excess. The following case, though not intensively studied, shows most of the features of this condition and is of interest, showing that the syndrome may also be expected in European children in this country where rickets, however, is rare.

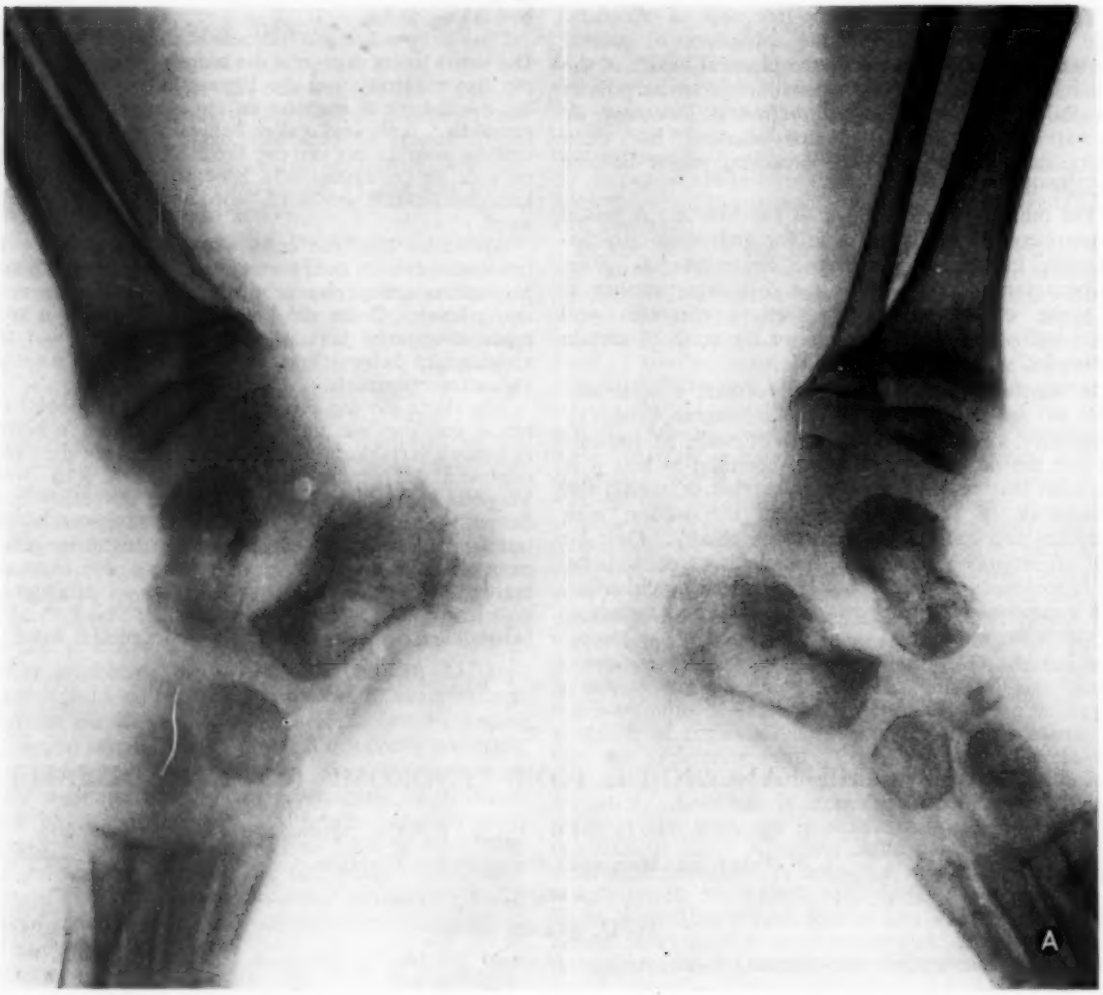

Fig. A. X-ray plate showing rachitic changes. A case of Fanconi-de Toni syndrome (cystine disease).

History. A. A., a European male child born on 15 June 1945, was admitted to the Transvaal Memorial Hospital for Children under Dr. Melle on 8 January 1949 with the complaints of difficulty in walking for one and a half years, deafness and poor speech for one year. He had been quite well until the age of two when his foster parents noted the presence of knock-knees and an impaired gait. The deformity had gradually increased and at the time of examination walking required considerable effort. At the age of two and a half years it became apparent that hearing was impaired and that inadequate progress had been made with his speech in the past six months.

Three months before admission the child had been taken to Holland to the clinic of Professor E. Gorter in Leiden and the following facts are contained in two of his reports to Dr. P. Wagner in East London. A diagnosis of a refractory form of late rickets was made. Examination of the urine showed casts, albumin and sugar, on the basis of the tests carried out the latter was considered to be glucose. Serum calcium was 9.8, 8.9, 9.0 and 9.2 mg. per 100 ml. and inorganic phosphorus 2.9, 2.5, 3.0 and 3.1 mg. per 100 ml.; blood

Fig. B. X-ray plate showing rachitic changes. A case of Fanconi-de Toni syndrome (cystine disease).
Fig. C. X-ray plate showing rachitic changes and a fracture of a long bone. A case of Fanconi-de Toni syndrome (cystine disease).
Fig. D. X-ray plate showing rachitic changes. A case of Fanconi-de Toni syndrome (cystine disease).

phosphatase, cholesterol and total lipids were increased. Three intramuscular injections each of 300,000 units of vitamin D were given over 40 days with no indication of improvement in any of the above findings. An increase in appetite was observed but it was doubted whether any radiological improvement occurred. Then a daily oral dose of 50,000 units of vitamin D was given for a week over which time serum calcium rose from 9.1 to 10.0 mg. and inorganic phosphorus fell from 3.0 to 2.7 mg. per 100 ml., while the phosphatase increased from 34 to 65 units. The daily urinary phosphate excretion was low, varying from 122-408 mg. per 24 hours.

In a letter received from Professor Gorter as this note was being sent to press it was stated that he had also investigated the amino acid excretion but had regarded his results as equivocal.

No explanation for the deafness could be found by skull X-ray or by tests of labyrinth responsiveness.

When seen in Johannesburg the child was not a dwarf, being 1 inch above average height for his age and only 2.5 lb. under average weight. Inspection showed enlargement of the ankle, knee and wrist joints and a rickety rosary. Radiographs taken on his return to East London showed marked rachitic changes, osteoporosis and a fracture and are reproduced in Figs. A-D.

Due to incontinence and lack of understanding consequent upon his deafness, quantitative studies of

urinary output were not undertaken but the following laboratory examinations are relevant:

10 *January 1949*. A full blood count showed no abnormality and the modified Ide test was negative.

12 *January*. Serum calcium 10.8 mg., inorganic phosphorus (whole blood) 2.4 mg. per 100 ml. Phosphatase 77 King-Armstrong units.

18 *January*. Blood urea, 21 mg. per 100 ml.

22 *January*. Fasting blood sugar 75 mg.; half-hour after 25 gm. glucose, 110 mg.; one hour 115 mg., and two hours 115 mg. per 100 ml.

Daily examination of urine showed a constant acid reaction to litmus; albumin and sugar were always present but no blood or acetone was detected at any time. Laboratory examination of one specimen showed occasional polymorph leucocytes, moderate numbers of hyaline and granular casts; another specimen furnished osazone crystals similar to glucosazone and a definite excess of amino acids was indicated by a strip chromatogram run with phenol. At a later stage a two-dimensional chromatogram with phenol and collidine enabled identification of eight separate amino acids (see Fig. 2 in the paper by Barnes elsewhere in this issue) using 50 μl. of urine.

In a later paper by Fanconi (1946) the association between this condition and cystinosis discussed by McCune and others (*loc. cit.*) was extended and the name of cystine disease suggested in preference to the earlier longer one. Following a suggestion in this paper sternal marrow smears were examined by polarized light. We found no definitely recognizable cystine crystals but, being doubtful of occasional anisotropic masses in the film, submitted it to Professor Fanconi for opinion. He was good enough to examine this and reported that no cystine crystals were found.

SUMMARY

Brief clinical and biochemical notes are presented on a case of the Fanconi-de Toni syndrome (cystine disease) in a South African child of European parentage.

ADDENDUM

Information has now been received that this child died recently.

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PARTITION CHROMATOGRAPHY OF URINARY AMINO ACIDS

IN CLINICAL BIOCHEMISTRY

H. D. BARNES, M.Sc.

Biochemical Department, South African Institute for Medical Research, Johannesburg

The technique of partition chromatography on paper strips or sheets as described by Consden, Gordon and Martin (1944) has placed a very powerful and versatile tool in the hands of chemists. Very briefly this method of analysis depends on the fact that it is possible, by the use of specific solvents, to separate the constituents of a solution from one another and to distribute them in an orderly series of spots on a strip or sheet of filter paper. Colour reactions can then be applied to the paper and the constituents present identified by reference to similar experiments carried out with known substances. When the appropriate conditions have been found, it is possible by this means to demonstrate the presence of a variety of constituents in small drops of a complex mixture. The process is particularly valuable when a number of substances belonging to a group having similar properties is present, since individual members can be separated in one experiment and, when sufficient experience has been gained, rough estimations of the amounts can be made.

The scope of this technique is by no means limited to clinical biochemistry, but within this field several useful applications have already been evolved. Amongst others may be mentioned the separation of mixtures of porphyrins recovered from excreta (Nicholas and Rimington, 1949); for creatine and creatinine in urine (Maw, 1948; Ames and Risley, 1948); for sugars (Partridge and Westall, 1948), and for sugars and other reducing substances in urine (Horrocks and Manning, 1949). The most striking of all is, perhaps, the extension of the original intent of the technique for amino acids and related substances to urine and other body fluids (Dent, 1946, 1947).

The metabolism of amino acids in the animal body is so nicely adjusted that despite a considerable continuous turnover of these metabolites only very small quantities are normally lost in the urine. Strip chromatograms of normal urine demonstrate the presence of a low concentration of these substances. Much time was spent by the early biochemists in study of the excretion of amino acids in disease and though slight increases were found in some instances, the deter-

mination of amino acid excretion was not found to be of any clinical value. Until fairly recent times the rare occurrence of leucine and tyrosine crystals in the urine of some cases of massive necrosis of the liver and the presence of cystine crystals in the urine of cystinurics were the only instances of practical importance of the pathological excretion of amino acids. More recently other rather uncommon metabolic disorders have been shown to be accompanied by a considerable increase in amino acid excretion, examples being the nephrotic, glycosuric dwarfism with hypophosphataemic rickets (known as the Fanconi-de Toni syndrome) and tyrosinosis (Medes, 1932). A report of increased amino-aciduria has also been made in one case of hepatolenticular degeneration (Kinnier Wilson's disease—Uzman and Denny-Brown, 1948).

Chromatographic analysis of the urine for amino acids has been used in all these types of case, lending itself not only to academic study but also providing an elegant diagnostic aid. The expectation that this method would demonstrate an increase in amino acid excretion in cases of hepatocellular jaundice as opposed to the obstructive forms has not been confirmed. The appearance of these substances in the urine is evidence of hepatic necrosis. When this occurs, as in acute yellow atrophy and eclampsia, many other amino acids besides leucine and tyrosine are found in increased amounts. In cystinuria also it can be demonstrated that the increased excretion is not confined to cystine.

During the past year two cases each of cystinuria and the Fanconi-de Toni syndrome have been encountered and the presence of a marked excess of amino acids was demonstrated in the urine by the use of paper chromatography. This note is presented to illustrate the usefulness of the procedure.

Case 1. D.K., a coloured female child, aged four years eight months, was first seen in November 1948 at the Coronation Hospital. The presenting symptoms were inability to walk with deformities of the chest and limbs of about two years' duration. Examination revealed a dwarfed child 28 inches tall, weighing 21 lb. There was dorsal kyphosis with enlargement of the epiphyses of the wrists and ankles and bowing deformities of the forearms and legs. There was a marked pigeon chest with a prominent rickety rosary. The liver was enlarged three fingers below the costal margin. The urine contained albumin and sugar and the specific gravity was low. Blood analysis showed: serum calcium 8.9 mg. per 100 ml., inorganic phosphorus 1.9 mg. per 100 ml. and plasma alkaline phosphatase 46 King-Armstrong units. The Ide test was negative. Radiological examination revealed florid rickets of the whole skeleton with deformities and healed fractures. After treatment with 150,000 units of vitamin D daily the inorganic phosphorus was found to be 3.5 mg. per 100 ml., serum calcium 10.4 mg. per 100 ml. and alkaline phosphatase 30 units, but after eight months only slight clinical and radiological improvement was shown.

On several occasions strip chromatograms failed to show any excess of amino acids, including a test done after oral administration of procasenol. Some time thereafter the child was admitted to the General Hospital at Germiston and blood analysis confirmed the previous findings. In addition the excretion of excess amino acids was found for the first time and the biochemical picture of the diagnosis rounded off.

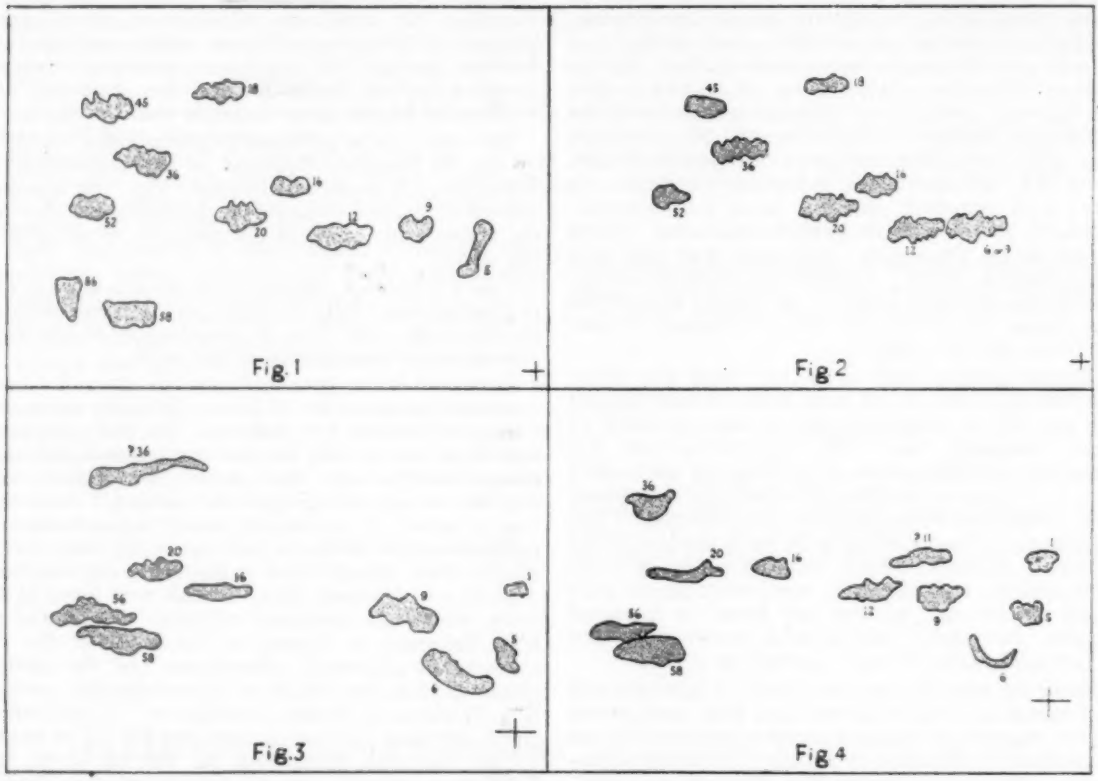
This case is to be published in greater detail elsewhere by Dr. N. Feldman, Registrar in the Department of Pediatrics at Coronation Hospital. Fig. 1 is a reproduction of the two-dimensional chromatogram showing the amino acids found in the specimen of urine from this case.

Case 2 is another example of the same syndrome and is reported more fully by Melle and Barnes elsewhere in this issue. Fig. 2 is a reproduction of the two-dimensional chromatogram of the urine.

Case 3, an Italian-born male, aged 54 years, had been a private patient of Dr. J. Brossy for many years and was being treated for diabetes. He had contracted syphilis before coming to this country and had been energetically treated. More recently his physician had detected cardiac enlargement and oedema. There was also a history of his having passed large numbers of small stones *per urethram* at frequent intervals for 27 years. The calculi were characteristic cystine concretions and abundant cystine crystals were found in the urine, which also contained albumin. There was no bony deformity or history of fractures but the co-existence of glycosuria, albuminuria and the marked amino-aciduria determined by chromatographic analysis (Fig. 3) warranted further investigation. A specimen of blood contained 11.0 mg. calcium per 100 ml. of serum; 3.6 mg. inorganic phosphorus per 100 ml. blood, and 8.2 King-Armstrong units alkaline phosphatase. Radiographs of the bones showed no abnormality. It was concluded, therefore, that this was a case of cystinuria with diabetes and albuminuria rather than one of the adult form of the Fanconi-de Toni syndrome.

Case 4, an unmarried Afrikaans woman aged 22 years with urinary tract symptoms was found to have stones in the right renal pelvis. These were removed surgically by Dr. B. W. Franklin Bishop of Kimberley but not further examined at the time. Subsequent chemical analysis showed these to be cystine stones. Her symptoms were not fully relieved and a specimen of urine was sent to the Institute for examination. Cystine crystals were found and a strip chromatogram showed an excess of amino acids. The two-dimensional chromatogram (Fig. 4) was then prepared. Dr. Bishop supplied the further information that a sister of his patient in Cape Town had a large cystine calculus removed at about the same time. A sample of her urine obtained subsequently showed the presence of cystine and a strip chromatogram indicated the presence of an excess of amino acids. A brother was stated to have had no symptoms referable to the urinary tract; cystine was not detected in a specimen of his urine either by microscopic examination or by chemical tests and the strip chromatogram was within normal limits.

The chromatograms from these four cases show clearly from eight to 11 amino acid spots which are



KEY TO THE IDENTIFICATION OF THE AMINO ACID SPOTS

1. Cysteic acid (from the cystine originally present). 5. Aspartic acid. 6. Glutamic acid. 9. Serine. 11. Taurine. 12. Glycine. 16. Threonine. 18. Tyrosine. 20. Alanine. 21. Glutamine. 36. Valine. 45. Leucine. 52. Proline. 56. Arginine. 58. Lysine.

Fig. 1. Case 1. Fanconi-de Toni syndrome. Two dimensional chromatogram showing urinary amino acids.
Fig. 2. Case 2. As for Fig. 1.
Fig. 3. Case 3. Cystinuria. Two dimensional chromatogram showing urinary amino acids.
Fig. 4. Case 4. As for Fig. 1.
(*Note*: For technical reasons the half-tone values in these records have been replaced by a fine screen.—*Editor.*)

numbered according to the key given by Dent (1948). The originals showed fainter spots which have been lost in reproduction and which might be due to other acids in lower concentration. In each case the droplet of urine was placed on the site marked +, phenol/water was flowed from right to left followed by collidine/water from below upwards.

SUMMARY

The use of partition chromatography on paper sheets for the demonstration of amino acids in urine is illustrated in cases of the Fanconi-de Toni syndrome and cystinuria.

The author expresses his thanks to the physicians concerned for supplying the clinical details to the Council for Scientific and Industrial Research for assistance with equipment, and to Mr. F. A. Brandt for photographing the chromatograms.

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RETROLENTAL FIBROPLASIA*

A CAUSE OF BLINDNESS IN PREMATURE INFANTS

BEN EPSTEIN, M.B., CH.B. (RAND), M.R.C.P. (LOND.), D.C.H. (LOND.)
Pretoria

In the course of post-graduate studies in pediatrics in the last few years, and in particular while working with premature infants, my interest has been directed to a rare and relatively recently described (Terry, 1942) condition named Retrolental Fibroplasia. During 1947-1948 I was fortunate in seeing three such cases in England. One was at the Premature Baby Unit at the Post-graduate Hospital in Hammersmith, another at the Premature Baby Unit of the Sorrento Maternity Hospital, Birmingham, and the third at the West Middlesex Hospital, where Dr. H. Shrand of Capetown, then Pediatric Registrar, kindly demonstrated this case to me. To my knowledge no one in England has made a special study of this disease. The rarity in England can be illustrated by the fact that Dr. V. Mary Crosse, at Birmingham, has come across only that one case in four years, during which period about 2,000 premature infants passed through her hands.

In U.S.A., on the other hand, this disease is far more common and is on the increase. The extraordinary feature is that this increase is apparently occurring in those places where the premature infants receive the best and most modern care. The estimated incidence based on those cases occurring in Boston (Allers) is 10%. Krause of Chicago states that at his hospital the incidence rate in infants below 3½ lb. (1,500 grm.) birth weight was 11% in 1945, 36% in 1946, 45% in 1947 and in 1948 it was 86%.

The incidence in South Africa is unknown. It would be interesting to know if any such cases have occurred in this country.

According to Terry the first evidence is the appearance of a small opaque spot posterior to the lens and on its periphery. He makes a point of saying that it is not 'Mittendorf's dot'—the spot at which the hyaloid artery divides into the three main branches of the tunica vasculosa lentis. The small mass of fibroplasia spreads rapidly in all directions and within a few weeks may cover the entire visible area of the posterior lens surface. The amount of abnormal tissue may vary, ranging from a thick mass that spreads into the vitreous to a thin incomplete membrane that permits of the retention of some vision. It is sometimes attached to the ciliary body or to the anterior margin of the retina.

While this is the primary lesion there are associated changes in other parts of the eye.

The socket may be small and microphthalmia may be present. The anterior chamber may become shallower and even obliterated. Blood vessels belonging to the hyaloid vascular system which are normally obliterated during the eighth month of foetal life, appear during this process. The ciliary processes are sometimes longer and narrower than normal.

Arising out of the alterations in the internal structure of the eye secondary complications occur such as

1. Anterior and posterior synechiae.
2. Cataract or microlentia.
3. Retinal disturbances such as retinal separation, retinal folds or chorio-retinitis.
4. Searching nystagmus due to lack of macular development.
5. Glaucoma.

With the passing of the years the fibroplasia usually becomes thin and perforated but vision remains poor.

Owens and Owens have followed the course of retrolental fibroplasia in great detail. The incidence in their cases was 12.1% in the very premature group and 1.3% in the heavier group. They state that 'on early observation the external appearance of the eyes and the fundus was normal. The earliest detectable abnormality was a slight dilatation of the retinal arteries and veins. The dilatation gradually increased but was more marked in the veins which increased to about three times their normal size, becoming more tortuous in the process. This was soon followed by one or more small grayish-yellow elevations of the retina in the far periphery. When first seen these areas were solid looking and elevated with slight pigmentation around their bases. Over them coursed tortuous retinal vessels. Soon the margins of the disc became blurred and generalised retinal oedema developed. The grayish masses of elevated retina in the periphery increased in height, and other grayish-yellow areas appeared scattered throughout the fundus. After a short time a g ay membrane with numerous vessels billowed forward in folds at the periphery of the retrolental space. This membrane appeared to be the anterior portion of the large masses of swollen retina. At this stage the fundus could be only hazily seen. Bands of tissue extended from the areas of detached retina in o the vitreous and between these bands a yellowish red fundus reflex was visible. Finally a complete retrolental membrane was formed by gradual extension and fusion of the peripheral folds of the retina'.

The rest of this description is very similar to that of Terry. Complete retrolental fibroplasia did not develop in all cases in both eyes. Its course may have been arrested at, or regressed from, various stages of development. Often a complete retrolental membrane formed but the disease did not progress into the stage of glaucoma. In some cases thinner areas appeared in the

*This paper was read at the Medical Congress of the Association held at Cape Town in September 1949.

membrane through which a good red reflex was visible but vision never improved.

The onset and development of this condition ranged in the cases observed by Owens and Owens from the second to the fifth month of post-natal life. In none did a retrolental membrane develop after 5½ months of post-natal life.

Although this condition has now been described in great detail by a number of authors there is as yet no explanation of its cause or incidence. The one fact that stands out is the relatively high incidence in premature infants weighing under three pounds.

Various theories have been postulated.

1. Terry thought it was a fibroplastic overgrowth of the hyaloid artery and tunica vasculosa lentis. He held that these vessels re-opened after birth.

2. Reese and Payne considered that the lesion was a persistence of the primary vitreous with or without hyperplasia. They drew attention to the relatively great frequency of haemangiomata of the skin in these cases.

3. Krause placed it amongst his group of 'Encephalo-ophthalmic dysplasia'—a pre-natal abnormality.

4. Ingalls supports Krause. In an epidemiological survey he studied the ante-natal case histories and demonstrated the possibility of anoxia due to ante-partum haemorrhage as a common factor in all the cases.

5. Owens and Owens postulate two theories:

(*a*) that it is entirely a post-natal condition due to the excessive treatment given in modern Premature Baby Units such as high protein diets, excessive amounts of vitamins, repeated transfusions of blood, parenteral amino-acids, hormone therapy and prophylactic use of antibiotics.

(*b*) that it is related to Coats' disease or angiomatosis retinae which bears a very close resemblance to the early stages of retrolental fibroplasia.

6. Warkany and Schraffenberger and Jackson and Kinsey have produced it in rats by feeding the mothers diets deficient in Vitamin A. Comparison with humans are, however, not strictly correct. Cases in premature infants have occurred where the Vitamin A level was kept no mal.

The impression amongst many paediatricians in the U.S.A. with whom I discussed this condition was that it might be due to excessive treatment with Vitamin A.

Signs and Symptoms. The child is brought for examination on account of poor vision which had commenced at about the age of six months. There may be nystagmus, photophobia, microphthalmia, and a foetal blue colour on the iris. Ophthalmoscopically there is a grayish-white opaque membrane behind the lens of one, but usually of both, eyes. There are thin ciliary processes in front of the opaque tissues. The hyaloid artery is persistent and retinal separation is frequent.

Differential Diagnosis. Retrolental fibroplasia must be differentiated from:

1. Retino-blastoma.
2. Congenital cataract.

Both are present at birth but may not be observed until some time afterwards.

3. Angiomatosis retinae. This condition belongs to Lindau's disease with haemangiomata present in other parts of the body.

Treatment. Hitherto no treatment has been of any help. It is directed to the prevention of glaucoma by the use of miotics and synechiae by the use of mydriatics.

It should be explained to the parents that the prognosis as regards vision is bad. These children should be brought up and trained as blind.

CONCLUSIONS

This paper is primarily a review of the literature on the subject. I have attempted to draw attention to a condition which is becoming of increasing importance. As we learn how to reduce the mortality rate of the very premature infants so are we more likely to come across cases of this kind.

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CANCER OF THE BREAST

THE SCOPE OF IRRADIATION

LIONEL COHEN, M.B., B.CH., D.M.R.T.
Radiation Therapy Department, General Hospital, Johannesburg

Since the first case of breast carcinoma was irradiated by Grubbe in 1896, the application of radiotherapy to malignant disease has met with several phases of alternate optimism and disillusionment. In general each wave of enthusiasm accompanied a significant improvement in clinical results following in each case, on improved knowledge of the physical aspects of the treatment.

Four distinct stages in this process can now be recognized. The first followed immediately on the twin discoveries of Roentgen and Curie, and some success in the treatment of cancer with radiation was reported

in 1896. The general clinical and biological reactions, including the principle of Bergonie and Tribondeau (1904), were elucidated at this time.

The second phase in this development involved the recognition and exploitation of the *time factor* in therapy. Regaud (1922, 1927) and Coutard (1922, 1932) showed that prolongation of the over-all treatment time greatly increased the relative sensitivity of tumours compared with normal tissues. Clinical results in various forms of cancer were materially improved by this technique. It became possible successfully to palliate, if not cure, advanced and inoperable deep-seated tumours; although, in the case of breast cancer results were too uncertain to warrant irradiation of operable cases.

The third phase of radiotherapy came with the development of objective and accurate *dosage units*. The universal acceptance of the roentgen unit of dosage naturally allowed of further standardization of treatment and led to more uniform and reproducible results. It became possible to prescribe optimal dosage to various tumours and to avoid unexpected damage to normal tissues. At the same time it became feasible to cure accessible lesions. In effect only localized carcinomas of the skin were amenable to precise dosimetry with the equipment then available; and in these cases complete cure of the primary lesion with virtually no permanent disfigurement could be guaranteed in almost 100% of cases.

The next step was to attempt to extend to deep-seated lesions the principles found to be successful in the treatment of accessible cancer, viz. the delivery of a cancerocidal dose, homogeneously distributed over the whole extent of the tumour and, at the same time avoiding, at any part of the body, dosage levels known to be permanently destructive of normal tissue. The application of this principle involves the simultaneous consideration of several physical and biological variables.

The most important of these is, of course, the measurement or estimation of the *tissue dose*. The physical problems involved have largely been solved. The Paterson-Parker system (1934) defines the quantity and distribution of radium giving any desired degree of precision for gamma ray tissue dosage. In the ensuing decade *Depth-Dose Tables* for roentgen rays of every quality from the grenz rays to supervoltage were made available (Quimby, 1940; Mayneord, 1941; Braestrup, 1944). The clinical fruits of this labour are now being reaped in every field of radiotherapy, not only in the attempt to deliver a specific cancerocidal 'tumour-dose' to the lesion in question and to evaluate results of therapy in terms of dosage received by the tumour, but also in the development of new techniques and apparatus for the delivery of greater depth doses.

This marks approximately the stage now reached in radiotherapy. It has been characterized by a distinct, but not overwhelming, reduction in mortality from deep-seated malignancy. The question why internal tumours do not yield to apparently adequate dosage as readily as do similar tumours on the surface, points to other physical and biological variables, such as homogeneity, volume dose, the time-dose-effect factor, the stromal reaction and local resistance, all of which are less readily controlled in the depths compared with the surface.

In only a small minority of papers in contemporary radiological literature is any attempt made to standardize, much less evaluate, the more important of these variables. Available data indicate that every one of these factors profoundly affects the results of therapy in mammary cancer, so much so that practically all hitherto published figures on the radiocurability of this disease may be considered invalid. An attempt will be made in this paper to elucidate the causes of failure in the therapy of mammary carcinoma by both surgery and radiation in view of the known pathology and radiobiology of this disease. It is hoped that the information will aid materially in designing more adequate radiotherapeutic techniques.

EXTENT OF DISEASE

It is axiomatic that successful cancer therapy depends on the complete eradication of the diseased tissue. In assessing the adequacy of any therapeutic procedure, therefore, it is necessary first to compare the extent of the pathological process with the volume of tissue capable of being cleared of disease by the procedure in question. Radical therapy of cancer implies complete removal or destruction of the overt disease as well as any tissue in which there is a significant probability of latent cancer.

This ideal applies equally to surgery and radiation, and the extent to which it becomes possible in practice should be reflected faithfully in the survival statistics. The distinction between radical and incomplete treatment cannot be an absolute one, since the exact extent of latent cancer infiltration is always uncertain. At best, treatment should be directed to those regions where the probability of latent spread is greatest, i.e. where experience has shown the greatest number of recurrences or metastases to arise, and be extended to include as many as possible of these regions compatible with the life and comfort of the patient. How has this ideal been approached in the treatment of breast cancer?

Radical surgery of the breast is beset by two fundamental difficulties:

1. The inadequacy of any so-called radical procedure in a disease the exact extent of which cannot be defined;

2. The simple physical fact that *total removal of the mammary gland can practically never be performed*. The lactiferous ducts originate embryologically from the cutaneous sebaceous glands. It should evince little surprise, therefore, that Hicken (1937), in a series of routine mammographies, demonstrated that lactiferous ducts extend over the entire antero-lateral chest wall. These ducts must necessarily be incised in attempted amputation of the breast. The same author (Hicken, 1940) showed that in 16 out of seventeen breasts removed by 'radical' operation, methylene blue injected into the ducts escaped from the cut surfaces. The inadequacy of surgery in this respect probably accounts for the high incidence of post-operative skin recurrences. Local skin recurrence occurred in 21% of 255 post-operative cases analyzed by O'Brien (1942)

and in 25% of 641 patients described by Fried and Goldberg (1943). These authors point out that 30% of selected 'early' surgical cases have histologically positive axillary nodes, and that of these, 70% die on account of still further extension of the disease. Over 21% of clinically 'early' cases, therefore, are, in effect, inoperable.

It is difficult to conceive of any technique by which the scope of modern radical breast surgery might be extended to include these unrecognized inoperables. Indeed the efficiency of radical surgery has not changed significantly in the least 40 years. Simmons, Taylor, *et al.* (1936, 1939) compare the results of radical mastectomy at the Massachusetts General Hospital at intervals from 1904 to 1932. The overall cure rate for 1904 was 19%; for 1932, 45%. The proportion of cases without axillary metastases for the same two years was 34% and 70% respectively. The cure rate for cases without axillary involvement, therefore, works out to 56% and 64% respectively. The figures given for intervening years show a steadily rising over-all cure rate, but a practically constant cure rate of 60% (±4%) for the early cases. The authors conclude that the improvement in the results of surgery during this time was entirely due to an increasingly rigid selection of cases. It was not found possible to determine the general operability rate from hospital figures, as a high degree of selection was imposed in the admitting procedure; but the impression was obtained that the relative proportions of early and late cases changed little during this period. A more recent communication from the same authors (Taylor *et al.*, 1947) reveals an essentially identical situation in current cases.

It becomes obvious, therefore, that the prime cause of failure in the surgical treatment of breast cancer lies in the extension of the disease beyond the excised regions. If radiation is to improve on the results obtained by surgery, it must be possible adequately to irradiate those areas most frequently infiltrated with cancer in the post-operative recurrences and metastases.

The three cardinal routes of extension of malignant disease in the breast, as elsewhere, are firstly by direct invasion; secondly via the lymphatics by permeation or lymphatic embolism; thirdly by blood-borne metastasis. In each of these processes, however, there has been need for revision of our classical concepts in view of recent research.

Direct Invasion. The usual conception of direct invasion by centrifugal extension of the lesion to the skin, muscle and bone, is a manifestation of advanced disease; 25% of Fried and Goldberg's (1943) 641 patients had local skin recurrences. In a small proportion of these, however, the skin nodules occurred as far afield as the scalp, arms and abdomen, and undoubtedly represented lymph-borne metastasis rather than direct invasion. Extensive *cancer en cuirasse* is probably lymph-borne, but this advanced stage can hardly be considered a post-operative complication. What is probably an early, frequent occurrence is microscopic infiltration through and alongside the duct system. The fact that the peripheral ramifications of the lactiferous ducts are left in place in the subcutaneous tissues in the majority of radical mastectomies (Hicken, 1940) seems to account for the high incidence of local recurrence in the skin at the operative site. It would seem, therefore, that post-operative irradiation of the skin is likely to be valuable.

Lymphatic spread of breast cancer is more extensive than the normal anatomical channels would indicate. When the normal lymph flow becomes obstructed by invading neoplasm, the stream may be deviated or reversed, new collateral channels opened and malignant cells widely dispersed well beyond the zone of normal physiological drainage. Handley and others have succeeded in mapping the ramifications of those channels known to have communicated with the mammary lymphatics, and which can probably be implicated in the dissemination of tumour. They are very extensive and can be enumerated as follows:

A. *The Mammary System*
1. The subareolar plexus.
2. Fascial and subcutaneous lymphatics, including Cooper's ligaments.

B. *The Axillary System*
3. Lymphatics around the acromiothoracic axis.
4. Subclavian and axillary arteries.
5. The subscapular network.
6. Along the circumflex artery to the head of the humerus.
7. Spinal accessory and jugular systems.

C. *The Anterior Mediastinal System*
8. Along the internal mammary artery.
9. Internal intercostals and parietal subpleural space.
10. Medial and lateral pre-pericardiac nodes.
11. Juxtaphrenic and diaphragmatic nodes.
12. Suspensory and falciform ligaments of the liver.
13. Sheath of the rectus abdominis.
14. Lymphatics of the liver and their trans-peritoneal extension.

D. *The Azygos System*
15. External intercostals and ribs.
16. Posterior intercostal nodes.
17. Posterior mediastinum.
18. Thoracic and lumbar vertebrae.
19. Tracheo-bronchial nodes.
20. Perivenous system of lymphatics along the azygos veins to the iliacs.
21. Anastomoses with the lymphatics of the bony pelvis and upper femora.

Blood-borne metastasis follows invasion of a vein by tumour. The conventional end-station of a blood-borne tumour embolus is, of course, the lung; and, indeed, the lung is the organ most frequently found to be involved at autopsy on deaths following unsuccessful mastectomy. Batson (1940), however, called attention to a peripheral venous anastomosis whose extent can be well correlated with the known distribution of visceral metastases. He has shown that the thoracico-abdominal veins anastomose at each segment with the corresponding azygos, vertebral and epidural veins. The system has no valves and very low pressure gradients, so that the normal flow, afferent to the vena cava, can be readily reversed by any form of Valsalva effect (coughing, straining) resulting in reflux of blood into the intracranial vessels. Batson demonstrated a free communication between the veins of the breast and those of the clavicle, humerus, vertebrae and brain.

The conclusions drawn from the anatomical studies are thoroughly confirmed by analysis of the distribution of metastases from breast cancer. Two recent papers

(Saphir and Parker, 1941; Fried and Goldberg, 1943) give statistics adequate for this comparison. They are drawn from upwards of 600 surgically treated cases of whom about 200 were subjected to autopsy. The most frequent sites for post-mastectomy metastasis are *intrathoracic*, these occurring in 89% of autopsied cases. *Intra-abdominal* lesions, mainly in the liver and adrenal, are the next in frequency; thirdly come *skeletal* deposits; and involvement of the *central nervous system* is the fourth most frequent site. These visceral metastases, of course, represent a late stage of the disease as the figures are drawn from autopsied cases, but they serve to confirm the conclusions drawn from a study of the anatomical pathways. There can be little doubt that regional lymph node deposits precede the more widespread involvement and probably represent the first station in the general centrifugal migration of the tumour. It would be logical to direct prophylactic irradiation to this regional lymphatic bed.

It is, of course, impossible in the present state of our knowledge to devise any prophylactic procedure capable of dealing adequately with this wide area of possible dissemination. At best one may hope to sterilize those regions where the probability of recurrence or metastasis is greatest. Recent data on the frequency and distribution of metastases following radical mastectomy do not, unfortunately, coincide with the regions conventionally chosen for prophylactic radiation therapy. In Saphir and Parker's cases (1941), lymph glands in the axilla, mediastinum and para-aortic regions were involved with equal frequency, each in about 30% of their 43 autopsied cases. The supraclavicular glands were much less frequently involved; not more than 7% of their cases. Handley and Thackray (1947) biopsied the internal mammary lymph glands by incision through the second intercostal space during the course of the radical mastectomy operation, and found them to be involved in four out of five unselected cases.

The evidence seems in general to implicate the axilla and mediastinum as the first stations in the spread of breast cancer, with the supraclavicular and cervical nodes as subsequent extensions of the growth. There is little excuse for the present tendency to concentrate attention on the axilla to the exclusion of the equally probable mediastinal involvement. Indeed the only reason for such emphasis seems to be that of convenience and surgical accessibility.

IRRADIATION

Few of the standard techniques published by the world's radiotherapy centres solve the problems posed in the foregoing section, i.e. they do not succeed in delivering a tumour lethal dose to even the first phalanx of invasion of breast cancer. Most of them fail to deliver an adequate dose (this quantity will be defined below) to any part of the treated area and they all fail to attain a sufficient degree of uniformity in the irradiated volume for delivery of such adequate dosage with safety. In all cases where histologic examination of biospy material was carried out following the standard irradiation procedures, viable cancer cells were observed.

Some selected and fairly typical examples of these techniques will be discussed: In the United States, Pfahler and Keefer (1947) deliver 1,800 to 2,400 r. at 135 KVP to the chest wall, axilla and supraclavicular fossa in 2 weeks. While this may adequately sterilize the skin in these sites, the dosage must necessarily fall off in the depths of the axilla, and is certainly negligible in the anterior mediastinum. Marshall and Hare (1947) treat the same three fields at 200 KVP, giving 2,400 r. in 21 days. The dosage is expressed as an air-dose, whence the probable maximum surface dose can be calculated to be 3,400 r. This might be effective in sterilizing the scar area but certainly not the deeper nodes. Halley and Melnick (1940) examined histologically a small series of breast tumours given similar dosage to the above and found active cancer cells in all cases. In Lenz' cases (1946), treated over rather lengthy periods, anything less than 6,000 r. was found ineffective in eradicating all the tumour.

In a carefully analyzed series of cases in Canada, Richards (1948) using 400 KV roentgen rays and teleradium, achieves large surface doses 4,500 r. or 8,000 r. in periods of 6 to 8 weeks. He does not calculate depth doses and makes no attempt to achieve homogenous tissue dosage. He estimates the MLD as in the region of 5,000 r. and more than half the tumours so treated recur.

In Britain, Keynes (1930, *et seq.*) used interstitial radium in the treatment of breast cancer before the radium dosage system was worked out. He succeeded brilliantly in eradicating localized disease, as an alternative to surgery, but radium cannot be used for prophylactic treatment of potentially invaded areas on account of integral dose considerations. Truscott (1947) records post-operative roentgen irradiation in the form of '. . . multiple intermittent suberythemal doses with medium voltage. The dose was recorded in "PD" or "%ED" and appeared to vary considerably. Treatment was carried out for prolonged periods, occasionally extending up to 3 years. . . .' Dosage can only be estimated roughly from these figures, it falls far short of adequacy, and not unexpectedly, no significant effect on the survival rate could be attributed to this technique. McWhirter (1943, 1948) favours simple mastectomy with intensive post-operative radiation, and delivers 3,750 r. tissue dose at 250 KVP in 3 weeks to the chest wall, axilla and supraclavicular region. Of all published techniques this is undoubtedly the most adequate, though the mediastinal nodes are likely to be insufficiently dosed.

In Europe, the tendency to use low voltage irradiation and to express dosage as air-dose, often adding dose levels in different areas, makes the data almost impossible to assess. Gylstorff-Petersen (1944) at the Radium Centre, Jutland, treated post-operative cases to 1,200 r. at 115 KV in 40 days and achieved 37% survivals. Hoffmeyer (1943) in Copenhagen reports that irradiation (dose estimated at 1,000 r. in 10 days) results in incomplete obliteration of breast cancer as assessed microscopically.

The yearly output of literature describing the techniques used and the results obtained in other institutions is enormous. Suffice it to say that the

methods differ only in insignificant details, and the results show no striking advance on the statistics given above.

It is only too obvious from these facts that neither surgery nor radiotherapy as practised at present solves the fundamental problem of breast cancer. The complete eradication of all potentially diseased tissue is not achieved, nor is it even theoretically possible to achieve this end with present day techniques. Obviously a radical revision of our treatment methods is imperative. In the absence of fundamental new discoveries this advance must be made with either surgery or irradiation. The author cannot conceive of any modification in the radical mastectomy procedure which could meet the problem; but the scope of radiotherapy has not been finally defined, and its potentialities have yet to be elucidated.

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(To be concluded)

ASSOCIATION NEWS : VERENIGINGSNUUS

ASSOCIATION OF SURGEONS (JOHANNESBURG): CLINICAL SECTION

The first meeting of this Clinical Section was held on 10 January 1950 at 5.15 p.m., in the Lecture Theatre in the Department of Surgery, Medical School, Johannesburg.

In the absence of Professor Brebner the meeting was opened by Mr. W. Girdwood, who briefly gave an outline of the purpose of the clinical meetings which would be held every fortnight and, he hoped, would be attended by a large enough number to warrant the use of a larger lecture room. Mr. Girdwood said that the meetings would be held on a clinical basis on similar lines to the very successful meetings which were held in the past by the Department of Surgery. It was hoped that general practitioners and specialists would attend, as all would be welcome, and those wishing to present interesting surgical cases should communicate with the conveners.

1. Mr. Hamman then presented a case of *Round Worm Obstruction of the Common Duct, with a Congenital Obstruction in that Duct, and Acute Pancreatitis.* He presented the following facts concerning round worm infestation of the biliary tract:—

(*a*) *Incidence.* It is a not uncommon condition in China and the Philippines where round worm infestation is endemic, while individual cases have been recorded in the literature on a number of occasions from all parts of the world.

Aviles (1918) collected 90 instances of biliary and 9 of pancreatic duct ascariasis from the literature. He credits Lorry in 1765 with the first observation of the condition. This was a post-mortem finding.

Yang and Laube (1946) note that between 1930-1943 a search of the literature revealed 30 articles on this subject, but with the exception of Crowell's report most were isolated cases. They themselves have written up a series of 19 personal cases. Intestinal infestation is common, particularly amongst our natives, though this is the only case of biliary ascariasis encountered; cases probably occur more often than may be realized.

Walters and Snell (1940) remark that despite the migratory tendencies of the parasite, its size usually precludes its entry into the bile ducts, but admit that it can and does so penetrate.

(*b*) *Pathology.* There may be more than one parasite present, and the worms may be found not only in the gall bladder and ducts, but in the liver associated with hepatic abscesses. Muir (1932) cites a case where a worm was found in each of six hepatic abscesses in a single patient. The pathology is that of duct obstruction, followed by stasis, catarrhal inflammation, and may go on to ulceration and suppuration. In some cases the worm dies and disintegrates and may form the nuclei of subsequent calculi. Pancreatitis may be associated with common duct obstruction, and with suppurative cholecystitis and hepatic suppuration is a serious complication.

(*c*) *Clinical Recognition.* This has been accepted as difficult. Morton (1928) remarks that it is usually made at operation. Yang and Laube (1946), however, make a plea for recognition and prompt surgery, and in their series were able to make an actual or tentative diagnosis in all their 19 cases.

The clinical picture may be that of an acute biliary episode, or begin less violently. Colic, upper abdominal pain and vomiting are common symptoms. Often a history of previous passage of round worms in the stool or of vomiting of round worms may be obtained.

Pyrexial reactions vary, and a leucocytosis is common. Jaundice was not a prominent feature of Yang and Laube's cases.

The condition should be thought of when symptoms of biliary obstruction present in a young patient in an area where round worm infestation is common.

(*d*) *Mortality.* This appears to be on the high side. There were three deaths in the 19 cases reported by Yang and Laube, and many isolated reports were from post-mortem findings.

Conclusion. Ascaride infestation is a more potentially lethal state than many practitioners realize. Subacute and at times acute intestinal obstruction is not uncommon from this cause. They have been known to precipitate intussusception and volvulus of the bowel. They may penetrate a recent enterostomy suture line and have been known to penetrate normal bowel wall. They are particularly dangerous when harboured in the biliary passages.

The case presented where there was in addition a congenital anomaly is probably unique.

2. Dr. Seymour Heymann discussed *Congenital Anomalies of the Common Duct.* He stressed:—

i. That 20% of congenital biliary obstructions were amenable to surgery in infants.

ii. These obstructions presented with mild jaundice, much

less in degree than the other types of jaundice in the newborn.

iii. There should be a period of observation before operation as in some cases a plug of mucus in the ducts can separate and the case improve.

iv. The syndrome of fibrocystic disease has been observed more frequently recently and must be differentiated.

Prof. W. E. Underwood discussed some interesting cases of *pancreatitis* seen recently. He mentioned the following cases:—

i. A case of acute pancreatitis in a child aged 8 years.

ii. Pancreatitis in a woman who had recently given birth to a baby.

iii. A male with a mass in the abdomen due to pancreatitis.

iv. A very fat lady with acute cholecystitis which subsided and in whom operation was possible. The gall bladder was found full of stones and there was a chronic pancreatitis without a stone in the common bile duct. Subsequently the patient required further surgery for a suspected stone in the common duct, but again the chronic pancreatitis proved to be the main pathology.

3. Mr. H. D. Barnes spoke on the *Prostigmine Test for Pancreatic Function* in which the response of the serum diastase to an injection of prostigmine promised some assistance in diagnosis.

During the general discussion Mr. Ellison showed an X-ray film of a recent case of pancreatic cyst in which the cyst was protruding into the stomach. At operation the stomach was opened inadvertently. The lining of the cyst appeared grossly inflamed and necrotic, just as if carbolic acid had been applied to the wall of the cyst.

Mr. Lannon asked for advice about a case in which the pancreatic cyst had burst into the stomach and the patient was suffering from pancreatic asthenia and wondered what accounted for the asthenia. Professor Underwood advised correction of the electrolyte balance in this case.

Mr. Girdwood congratulated the Section on the excellent attendance.

Convenors:

W. Girdwood (22-6717).
K. Colsen (22-1674).
J. Hamman (44-5806).
M. Arnold (22-3070).

SECOND MEETING (24 JANUARY 1950)

The meeting was opened by Prof. I. W. Brebner, who called upon Mr. K. Colsen to show *Cases of Spine Lesions* with maximum injury to bone with minimum cord lesion, minimum bone injury with maximum cord lesion, and a disc lesion.

1. Mr. Colsen presented a case of an Indian with an atlanto-axial fracture dislocation, with his cord virtually supporting his head on his trunk. The man walked into Mr. Colsen's consulting rooms with his head bent forward; he was taken to the X-ray Department in the building and the X-ray revealed the exact extent of his injury, which was demonstrated to the meeting by X-ray films. He was taken to the N.E. Hospital, and Mr. Colsen, working with a team, treated him by reduction by one stage traction using a skull caliper and traction by the Bohler frame. He was in plaster of Paris for three months, and after this period it was decided to do a bone graft. There were few references in the literature and a patient can die from this type of injury immediately, or days, weeks, months or years afterwards from trivial causes, even from a sneeze. There is not much literature on this type of injury, and Mr. Colsen referred to *Surgical Aspects of the Treatment of Traumatic Paraplegia* by Ludwig Guttmann of Oxford. A window was cut in the back of the plaster and an iliac crest graft was used to bridge the gap between the skull and the second and third cervical spines.

The salient feature about this case is an almost incredible bone injury with no neurological symptoms to speak of. Photographs were then shown of the progress of this patient.

2. *Maximum Cord Lesion.* During 1946 a young woman was involved in a motor car accident. The taxi in which she was travelling turned over and the resulting injuries were pulverization of C5 and sub-dislocation between C5 and 6, causing complete paraplegia. She was treated by the same methods as the first case, and put in plaster, where she remained for three months. Mr. Erasmus (Neuro-Surgical Department) considered that from a neuro-surgical aspect it would not be necessary to operate. The patient has had an almost complete recovery, can walk through a room and in her own garden. No surgical interference was advised or attempted.

Laminectomy is usually unnecessary and even dangerous when there are signs of improvement in closed lesions.

In our opinion this woman has had a permanent, partial, transverse lesion of the spinal cord. The patient was intelligent and co-operative and this has certainly helped very considerably; also the co-operation of a physiotherapist. The question is: Laminectomy early or late, or laminectomy at all?

Mr. G. T. du Toit in discussion said he considered that the progress of the first case mentioned by Mr. Colsen was almost a miracle. He described a few cases which had come under his care, the first one being a young child who had a fracture at the base of the odontoid in which bony union occurred after six months. Another case was that of a man who was spoon-fishing on the South Coast and who, by jumping about, sustained a subluxation of the cervical spine; and another case was of a little child who had his tonsils and adenoids removed under a general anaesthetic, had a previous history of sepsis in his throat, and the day after operation the child had agonising pain in his neck. On examination a lump was found in the neck. His doctor pulled on his shoulders and feet and this had no effect. On X-ray there was a ¼ inch space between the odontoid and spontaneous subluxation of the axis. It is, therefore, not unusual that very trivial violence displaces bones in the neck.

Another man had subluxation of C5 and 6. After 1½ hours' one stage manipulation he was left with paralysis of his arm which two years later was still present. It is correct to apply traction in extension and not in flexion.

The answer to the question, therefore, is that in most cases laminectomy for fracture dislocations has been very unsatisfactory and disappointing. If there is no extension of neurological signs there is no need for laminectomy. However, manipulation is valuable and sometimes necessary, e.g. a gross fracture-dislocation of lumbar 1 and 2 occurred in a patient. There was evidence of a cauda equina lesion. Straight traction was applied, a squelching noise was heard and it just went in and a spinal dislocation was reduced. The neurological signs improved rapidly.

Mr. du Toit said there was very conflicting literature on this subject.

Another woman had severe dislocation in lumbar 1 and 3. She was thrown out of a taxi and sustained a fracture-dislocation which was displaced through the full breadth of the vertebrae. Anaesthesia from L1 down. Open reduction was done and she was put in a plaster slab; she was completely paraplegic for one year to 18 months. It had been impossible to get a stable reduction after removal of bone by laminectomy. She made such good recovery that she only had a foot drop and she was given a toe raising spring for two years. To sum it up, I am against laminectomy.

Mr. Keith Lewer Allen then spoke on the neurological aspect. He mentioned the late occurrence of Arnold-Chiari syndrome after high fracture dislocation of the cervical spine and advised visualization so that any pressure could be corrected.

It is interesting to note that with a person lying in bed on his side with a lumbar needle in position, the pressure goes up to as much as 300 cm. of water on flexing the neck. We have seen cases with displacement of the arch of the atlas which closed off the cerebrospinal fluid circulation. One does not know whether that would apply in Mr. Colsen's first case. It is simply a statement for argument. I favour surgical exploration in cases that do not improve in a reasonable period. Relations insist that one does 'something'. Yet there is usually little success by so doing. I think that each case should be treated on its own merits and one should not generalize. Yet some cases improve dramatically.

For the most part ischaemia is accompanied by some oedema of the cord. If one can assess an increasing oedema

of the cord which does not subside early, it is an indication that one might be able to relieve the ischaemia and reverse the process if it is reversible. I do not think one can regain total improvement, but one might be able to help to a certain extent.

In case No. 2, open laminectomy, leaving the open dura may have aided her recovery.

Another point that I would like to make is that in the chronic stage we have cases coming to us as difficult diagnostic problems. Some of these cases have been variously diagnosed as subacute combined degeneration, a minor trauma which had occurred previously having been ignored.

We have been exploring and finding bone deformities mainly anterior to the cord forming a bridge across anteriorly and the cord pulling across the anterior bridge especially when the head is below in flexion. We have removed the anterior bony bridge even right across the cord and we have had some rather astounding improvement in symptoms.

3. *Chronic Spinal Injuries.* A butcher in the O.F.S., while dealing with the carcass of an ox, suffered from a knife injury to the neck. There followed numbness of his right arm. In a year's time the other arm also became affected, he then had difficulty in speaking and had a mask-like expression on his face. He came to us long after this and we felt that the lesion was in the brachial plexus and we thought it must be inside the spinal column. We did an exploring laminectomy and we found enormously engorged veins and the cord compressed by an arterio-venous aneurysm.

Professor Brebner said he had never seen improvement following laminectomy for cord lesions and he had been very disappointed with the results. One thing had always struck him about cases with C5 and 6 lesions. The vertebrae might have slipped back before being seen, so that much more displacement may have occurred before X-rays are done, and thus the damage caused by a displacement may have been much more severe than the degree of the injury assessed by X-rays.

In Montreal, Canada, he saw five cervical dislocations which had been operated upon and wired five days after they came in. They are notoriously difficult to reduce and maintain without such measures. He was very interested to hear about the first case presented by Mr. Colsen, and also the progress of the second case, as this young woman had been in his ward for six months.

Mr. Colsen replied to Mr. du Toit's very interesting observation that very trivial violence can cause dislocation of a spine.

Professor Brebner then thanked the speakers for presenting their cases and said that it was a very interesting subject and a very important matter that had been discussed this afternoon.

Convenors:

W. Girdwood (22-6717).
K. Colsen (22-1674).
J. Hamman (44-5806).
M. Arnold (22-3070).

THE BENEVOLENT FUND

The following contributions to the Benevolent Fund during February 1950 are gratefully acknowledged:

Votive Cards: *In Memory of*:
Dr. C. M. Murray *by* Dr. A. H. Tonkin, Dr. J. P. Collins.
Dr. S. K. Montgomery *by* Dr. J. D. Wicht, Dr. H. A. Moffat, Dr. Jack Abelsohn.
Mrs. Sarah Roux *by* Dr. S. F. Silberbauer.
Dr. P. G. Harvey *by* Dr. G. F. Dommisse.
Mrs. T. A. Fuller *by* Dr. Jack Abelsohn.
Mrs. D. M. Wilson *by* Dr. Reuben Jacobson.
Bernard Goodman *by* Dr. G. M. Malan.

Total Amount Received from Votive Cards:	£14	3	6

Services Rendered to:
Dr. J. D. Wicht *by* Dr. H. L. Cohn.
Dr. I. Freinkel *by* Dr. A. L. Agranat.
Dr. J. A. Mulvany *by* Dr. T. L. Lindsay Sandes, Dr. P. C. W. Madden, Dr. Greaves.
Dr. P. Spreadborough *by* Dr. Rex Burrell.
Mrs. Crean *by* Mr. L. B. Goldschmidt, his Assistant and Colleagues.
Marie and Richard Schulenburg *by* Dr. P. A. Hugo, Dr. W. A. Lombard.
Dr. Eric Dyke *by* Dr. F. H. Dommisse, Dr. T. Fichardt.
Miss Susan Hill by Dr. A. W. S. Sichel.

Total Amount Received from Services Rendered:	142	5	6
Donations:			
Dr. M. N. Mandelstam	1	10	0
Dr. J. Balkin	5	5	0
Cape Midland Branch Members	34	8	0
Natal Inland Branch Members	57	12	0
Natal Coastal Branch Members		10	6
	£255	14	6

QUESTIONS ANSWERED

TREATMENT OF SMALL BREASTS

Q. Two young female patients came to me with the request: 'Doctor, can you please give me something to make my breasts larger?'

Case 1: Female aged 20 years. Unmarried. Weight stationary at 130 lb. Height 5 ft. 7 in. Nil of note in past medical or surgical history. Menstruation: C 11 $\frac{4-5}{27-30}$, loss moderate, no clots, no dysmenorrhoea. Nil else of note in the present history.

On Examination: General muscular development good, skeletal development appears normal. No abnormality of the thyroid gland. Blood pressure, 116/70 mm. Hg. Breasts very small. Nipples proportionately developed. Glandular tissue palpable and apparently proportionately developed. Slight extension of pubic hair towards the umbilicus. The external genitalia appear normal.

Case 2: Female aged 24 years. Unmarried. Weight stationary at 112 lb. Height 5 ft. 6 ins. Nil of note in the past medical history. Appendicectomy at 12 years of age. Menstruation: C 16 $\frac{3-4}{31-36}$, loss moderate, no clots, fairly severe dysmenorrhoea. Nil else of note in the present history apart from occasional severe headaches.

On Examination: The subject is thin. Muscular development poor. Bones small. No abnormality of the thyroid gland. Breasts very small. Nipples small. Glandular tissue apparently underdeveloped. Pubic hair normal in distribution. The external genitalia appear normal. Some excess of hair on the legs. Nil else of note.

A. This is a difficult question to answer in a limited amount of space. However, having a baby usually solves the problem, as the breasts increase in size satisfactorily during lactation, though they may shrink again later. Usually there is quite a degree of enlargement which persists. There are three main factors to consider in these two women:

i. The anterior pituitary may be abnormal.

ii. The ovaries may not be secreting adequate amounts of oestrogen and progesterone.

iii. The breasts themselves may not be able to respond to the normal hormonal stimulation. Lack of oestrogen and progesterone is probably the most likely deficiency here, and that is why the following regime is suggested.

1. *Oestrogen.* Three times a week inject oestradiol benzoate 2 mg. intramuscularly for one month (by mouth larger doses must be given).

(2) On alternate days inject progesterone 2 mg. subcutaneously for one month, three times a week.

(3) Inunctions to the breast of an ointment containing 3 mg. oestradiol benzoate per gm. (twice daily). Review the cases at the end of the month. Try to increase the patient's weight, as the breasts may share in the general bodily enlargement.

Reference. Hoffman's *Female Endocrinology* (Saunders, 1945), page 476.

PASSING EVENTS

DINNER IN HONOUR OF DR. F. P. BESTER, PAARL

A successful and most enjoyable dinner (arranged by Dr. H. M. Griffiths) was held on Friday, 13 January 1950, to do honour to Dr. Frank P. Bester. Many colleagues from all parts of the district travelled to Paarl for the occasion, which was a memorable one and a unique event in the history of the Division and the Branch.

* * * *

Dr. Morris Witkin, M.D., F.R.C.P. (Edin.), has returned from Great Britain, where he was engaged in post-graduate study in paediatrics and is now practising as a consultant paediatrician at 806, Medical Centre, Jeppe Street, Johannesburg.

NUFFIELD DOMINION TRAVELLING FELLOWSHIPS

1. Applications are invited *not later than 15 May 1950*, for the following very generous senior fellowships offered to South African nationals by the Nuffield Foundation for the year 1951:

One fellowship in the Natural Sciences;
One fellowship in the Humanities;
Two fellowships in Medicine.

2. Applicants must be between 25 and 35 years of age, have high intellectual and personal qualities, and have shown capacity of an unusual order to advance knowledge and education in some branch of their fields. They must undertake to return to South Africa as soon as possible after the termination of their fellowships.

3. Copies of the regulations and application forms should be obtained:

(a) By university applicants—from the Registrars of their universities;

(b) By others—from the Honorary Secretary, Nuffield Foundation South African Liaison Committee, c/o P.O. Box 395, Pretoria.

4. *Applications received after 15 May 1950 will not be considered until 1951.*

* * * *

Dr. E. F. H. Mohr, formerly medical superintendent of the National Hospital, Bloemfontein, has assumed duties as Director of Hospital Services for the Orange Free State.

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Jerome Rabkin, M.B., Ch.B. (Cape), M.R.C.P. (Edin.), D.C.H. (Lond.), has recently returned from overseas, and has joined the paediatric practice of Drs. J. Wolf Rabkin and S. C. Shore. *Rooms*: National Mutual Buildings, Church Square, Cape Town. *Telephones*: Rooms: 2-5293, 2-8593; Residence: 3-9558.

CAPE TOWN PAEDIATRIC GROUP

The next meeting, which will take the form of a clinical evening, will be held at the Falconer Theatre at the Groote Schuur Hospital on 24 April 1950.

Dr. W. G. Thomson has repurchased his practice at Steytlerville from Dr. D. J. Swart and resumed duties on 1 March 1950 after a year's absence.

MEDICAL CONGRESS, 1951

A Joint Meeting of the British Medical Association and the Medical Association of South Africa will be held at the University of the Witwatersrand, Milner Park, Johannesburg, from 16-21 July 1951. An Organizing Committee has already been formed in Johannesburg with the following office-bearers: *Chairman:* Dr. A. J. Orenstein; *Vice-Chairmen:* Dr. B. G. Melle, Dr. J. H. Harvey Pirie; *General Secretary:* Dr. H. Moross; *Organizing Secretary:* Dr. C. C. P. Anning; *Medical Secretary:* Dr. R. Geerling; *Treasurer:* Dr. R. A. Krynauw.

Further announcements will be issued in due course, but in the meantime colleagues are asked please to note the date.

* * * *

The full title of Dr. F. W. Roberts' Congress paper which appeared in the issue of the *Journal* published on 11 March 1950 should read: 'Anaesthesia for the Repair of Congenital Atresia of the Oesophagus'.

* * * *

The President of the Medical Association of South Africa, Dr. A. W. S. Sichel of Cape Town, has been appointed to preside over the Joint Meeting of the British Medical Association and the Medical Association of South Africa which will be held in Johannesburg in July 1951.

This is the first time that a South African medical practitioner has been honoured by being made President-elect of the British Medical Association while occupying the position of President of the Medical Association of South Africa.

* * * *

Dr. M. J. Ross-Garner has left Voortrekkerhoogte Military Hospital and is now in practice as a radiologist at 6 New Main Street, Kimberley. Telephone: 1535.

* * * * *

Dr. G. Comay, M.R.C.P. (Edin.), D.C.H. (Lond.), formerly in practice as a specialist paediatrician in Cape Town, has now begun practice as a specialist paediatrician in Exchange Building, 89 Main Street, Port Elizabeth. Telephone: 11-2263.

IN MEMORIAM

PROF. J. A. RYLE

The death of Professor J. A. Ryle, reported in the *Cape Times* of 7 March, should not go unnoticed in the columns of your *Journal*. Obituary notices will doubtless appear in the *British Medical Journal* and in the *Lancet*, but I think we might well do him honour in our own *Journal*.

The main facts of his career are probably known to many of your readers. He was Assistant Physician to Guy's Hospital from the end of the first world war until 1938. During this period he established himself as one of the leading consultants in London. If he had any specialty it was in gastro-enterology, under the influence of Sir Arthur Hurst, and arising out of his own researches on the fractional test meal, but the idea of specialization within the field of a consulting physician did not appeal to him. He was one of the great exponents of seeing the patient as a whole, and his greatest clinical contributions lay, in my opinion, in his emphasis on the multiplicity of aetiology in most of the common diseases, and hence the need for seeing the patient as a whole and in relation to his total environment. Through this outlook he became increasingly interested in what is now called psychosomatic medicine; he himself preferred to use the term visceral neurosis, and his views on this subject in his Croonian lectures will remain a classic of medical literature. His broad approach to the whole field of clinical medicine is almost immortalized in his book *The Natural History of Disease*. I say immortalized because in my opinion his Croonian lectures and

his book on the *Natural History of Disease* will be looked back on for many generations as medical classics.

It was a great surprise to many of his friends when he accepted, at the age of 47, the Regius Professorship of Physic (not Physics) at Cambridge. This Chair was well known through holders such as Albutt and Rolleston, and had for some time been held by people past the age of active practice, and had certainly not been held by a non-Cambridge graduate for a very long time. He accepted the invitation to take the Chair and lay the foundation for a school of clinical research in Cambridge. An auspicious start was made in 1938, but it soon became obvious that it would take a long time to develop the Department in a University so dominated as Cambridge by the laboratory approach to exact biological sciences. The second world war interrupted this experiment at Cambridge, and for a time Ryle went back to his old home at Guy's in a consulting capacity.

After the war he was invited to take the first chair of Social Medicine in Oxford. This again was a great surprise to many people, but the reasons are quite clear in his writings and to those who knew him. As his experience grew he became increasingly conscious of the limitations of the purely hospital approach to clinical medicine. He knew that the patient was in an artificial environment, and that it was too difficult to see him against his true background and environment when he was studied only in a hospital bed. He thus became one of the pioneers of social medicine. His Chair, founded by the foresight of Lord Nuffield, was the first Chair of Social Medicine in Britain, and was probably the only Chair of Social Medicine in the world occupied by one who had prolonged and expert knowledge of clinical medicine in its orthodox sense. His experience as a physician, as exemplified in his book, the *Natural History of Disease*, was a measure, therefore, of his contribution to the new science of social medicine. He never tired of pointing out that social medicine had nothing to do with socialized medicine, and that it was concerned with the scientific approach to sick man in his total environment. His Department in Oxford became a mecca for students of social and preventive medicine from many parts of the world.

His visit to South Africa a year or two ago was a great stimulus to those who saw the need for a wider approach than the purely clinical approach to medicine in South Africa. He and his wife—who was born in South Africa—made many friends and admirers during their visit; since that visit his health has been a continual anxiety, and a few weeks ago his resignation from the Chair of Social Medicine in Oxford was announced. His sudden death comes as a great shock to friends and admirers all over the world.

Ryle as a man commanded the respect, admiration and confidence of all who knew him personally; his soldierly bearing and excellent address made him a famous speaker to medical audiences; his sympathy and understanding for human nature stamped him as one of the great physicains of our generation. He was a family man with simple tastes and great interest in natural science and philosophy. To his assistants and associates he was a constant stimulus to emulation and affection.

J. F. Brock.

Wernher and Beit Medical Laboratories,
Mowbray, C.P.
9 March 1950.

OFFICIAL ANNOUNCEMENTS

I. ASSISTANT MEDICAL SECRETARY

Applications are invited from bilingual medical practitioners for the post of Assistant Medical Secretary of the Medical Association of South Africa at its Head Office in Cape Town.

The salary scale is £1,000 × 40—£1,200 plus cost-of-living allowance at Government rates (£208 per annum for married persons and £57 4s. for single persons).

The successful applicant will be required to subscribe to the Association's Pension Scheme.

Further information may be obtained from the Medical Secretary, P.O. Box 643, Cape Town, to whom applications should be addressed before 30 June 1950.

II. PART-TIME ASSISTANT EDITOR

Applications are invited from bilingual registered medical practitioners for the post of part-time Assistant Editor.

Emoluments (*non-pensionable*): £100 per quarter plus an additional allowance of £15 per week when acting during the absence of the Editor.

The successful candidate will be required to spend at least two afternoons a week in the Editorial office at Medical House, 35 Wale Street, Cape Town. He will be required to become completely familiar with the editorial, office and advertising organization, assist in the selection and preparation of manuscripts for the printers and act with full responsibility in the absence of the Editor.

Applications should be addressed to the Medical Secretary, P.O. Box 643, Cape Town and must reach him by 30 June 1950.

AMPTELIKE AANKONDIGINGS

I. MEDIESE ASSISTENT-SEKRETARIS

Aansoeke deur tweetalige geneeshere word gevra vir die betrekking van Mediese Assistent-sekretaris van die Mediese Vereniging van Suid-Afrika by sy Hoofkantoor in Kaapstad.

Die salarisskaal is £1,000 × 40—£1,200 plus lewenskostetoelae teen Regeringskaal (£208 per jaar vir getroude persone en £57 4s. vir ongetroudes).

Van die suksesvolle aansoeker sal verlang word dat hy by die Vereniging se pensioenskema aansluit.

Verdere inligting kan verkry word van die Mediese Sekretaris, Posbus 643, Kaapstad, aan wie aansoeke voor 30 Junie 1950 gerig moet word.

II. DEELTYDSE ASSISTENT-REDAKTEUR

Aansoeke deur tweetalige geregistreerde geneeshere word gevra vir die betrekking van deeltydse Assistent-redakteur.

Besoldiging (*nie-pensioendraend*): £100 per kwartaal plus 'n addisionele toelae van £15 per week wanneer hy gedurende die afwesigheid van die Redakteur waarneem.

Van die suksesvolle kandidaat sal verlang word dat hy minstens twee middae per week in die redakteurskantoor by Mediese Huis, Waalstraat 35, Kaapstad aanwesig is. Van hom sal vereis word dat hy heeltemal vertroud raak met die redaksionele, kantoor- en advertensie-organisasie, by die kies en voorbereiding van manuskripte vir die drukker behulpsaam sal wees en dat hy by afwesigheid van die Redakteur met volle verantwoordelikheid optree.

Aansoeke moet gerig word aan Die Mediese Sekretaris, Posbus 643, Kaapstad en moet hom teen 30 Junie 1950 bereik.

REVIEWS OF BOOKS

SKIN DISEASES IN GENERAL PRACTICE

Skin Diseases in General Practice. By F. Ray Bettley, T.D., M.D., F.R.C.P. (Pp. 260. With 96 illustrations. 21s.) London: Eyre & Spottiswoode (Publishers) Ltd. 1949.

Contents: 1. Introduction. 2. Eczema—Definition and Diagnosis. 3. Contact Eczema. 4. Constitutional Eczema. 5. Eczema—Treatment and Prognosis. 6. Infantile Eczema and Flexural Eczema. 7. Occupational Dermatoses. 8. The Seborrhoeic State and Acne Vulgaris. 9. Seborrhoeic Dermatitis. 10. Psoriasis. 11. Impetigo Contagiosa. 12. Fungus Infections of the Skin. 13. Rosacea. 14. Perineal Pruritus. 15. Alopecia Areata. 16. Parasitic Diseases. 17. Naevi. 18. Epithelial Tumours—Verruca and Epithelioma. Appendix. Index.

This useful work is intended to supply the need of the general practitioner in the diagnosis and treatment of skin diseases

which inevitably and from time to time must come his way. It fulfills this purpose admirably. By far the most frequent and often the most resistant skin disease with which the general practitioner is confronted is eczema in one or other of its forms. The general practitioner, after prescribing various standard and well-recognized local applications without producing the hoped-for subsidence of the condition, and in many cases even aggravating it, finally admits defeat and refers the patient to a specialist or a General Hospital.

More than one-third of this work is devoted to a study of the eczematous conditions. The author clearly, concisely and logically traces the evolution of the condition through its various stages, pathological and clinical, indicating the appropriate treatment for each particular stage.

In the treatment of psoriasis perhaps mention should be made of the Goeckerman method as modified for ambulatory patients. This method is often effective in the treatment of wide-spread and recalcitrant cases and can be carried out by the patient in his own home.

Reference to the fungicidal fatty acids in the treatment of tinea would be useful to the general practitioner and should be included.

In the section on parasitic diseases, it might be well to add that pediculosis capitis and phthirus pubis can be treated effectively with benzyl benzoate emulsion as used in the treatment of scabies, thereby overcoming the disadvantages of paraffin oil and mercurial ointments.

The work is generously illustrated throughout, though there is a lack of definition in some of the illustrations, rendering recognition difficult. The print is large and clear and an easy flow of language makes it a pleasure to read. The work is one which every general practitioner should possess. In it he will find much of interest, a great deal more of use and a considerable saving of time which he would otherwise be compelled to spend by delving into the larger volumes on the subject.

SARCOID

Der Morbus Besnier-Boeck-Schaumann: Chronische epitheloidzellige Reticuloendotheliose oder Granulomatose. By Dr. Med. Stefan J. Leitner. (Pp. 264. With 90 illustrations. Swiss Francs 38.) Basel: Benno Schwabe & Co. Second edition. 1949.

Contents: 1. Einleitung und Geschichtliches. 2. Namengebung. 3. Zusammenfassung der Syndrome der epitheloidzelligen Granulomatose. 4. Pathologische Anatomie. 5. Klinisches Bild. 6. Das Verhalten der Bluteiweisskörper. 7. Die Hyperroalcämie und der Mineralstoffwechsel. 8. Forschungsergebnisse über die tiologie. 9. Prognose. 10. Therapie. 11. Zusammenfassung. 12. Literaturverzeichnis. 13. Sachregister.

The term sarcoid, originally coined to describe a cutaneous disease, was never appropriate and Dr. Leitner prefers, with reason, to assemble his work under the title of 'the Besnier-Boeck-Schaumann disease' to the use of the Anglo-American 'sarcoidosis'. In the last 50 years a great variety of individual syndromes has been described, but it is only comparatively recently that the information has been collated and it has been shown that they all fall within the scope of chronic endothelioid-celled reticulo-endotheliosis or granulomatosis. The author shows from reference to his own cases and to the literature that lesions may be discovered, because of the ubiquity of reticulo-endothelial cells, in practically every organ.

The book begins with an historical introduction, a discussion of nomenclature and a resumé of the various syndromes, and then proceeds to a detailed description of the pathological picture and clinical findings in the various systems. The descriptions are, throughout, careful and lucid, but the work would have been improved by better and more numerous illustrations of the cutaneous lesions. Finally there is an excellent survey of the theories on aetiology (the author favours a tuberculosis origin) and short notes on prognosis and treatment.

In presenting his illustrative cases with an exhaustive survey of the world literature on endothelioid-celled granulomatosis, Dr. Leitner has succeeded in producing a work of reference which will please and enlighten the specialist in every branch of medicine.

A HISTORY OF OTO-LARYNGOLOGY

A History of Oto-Laryngology. By R. Scott Stevenson, M.D., F.R.C.S. (Ed.) and Douglas Guthrie, M.D., F.R.C.S. (Pp. 155 + vii. With 52 illustrations. 17s. 6d.) Edinburgh: E. & S. Livingstone Ltd. 1949.

Contents: 1. Introduction. 2. Ancient History. 3. The Middle Ages and the Renaissance. 4. The Seventeenth and Eighteenth Centuries. 5. Otology becomes a Science. 6. The Education of the Deaf. 7. Laryngology in the Nineteenth Century. 8. Modern History. Bibliography. Index

It is interesting to note that, circumscribed though this specialty may be, there have been at least five different histories of the subject written in various countries since 1885. The volume under review is scholarly, as might be expected from its authors, and at the same time eminently readable.

Rhinology, it transpires, is apparently the most ancient of specialties. The earliest physician known to us was the Egyptian Sekhet'enanch who lived about 3,500 B.C., and was the medical attendant of one of the Pharoahs of the fifth dynasty. A limestone slab set up in the palace, at the suggestion of the physician himself, bears the legend 'He healed the King's nostrils'. The ancients naturally possessed only a very primitive conception of disease, considering an aural discharge 'the excrement of the brain', and it was not until the Renaissance produced its many brilliant anatomists, such as Vesalius and Fallopius, that the treatment of disease was put on a rational basis. In some respects we have not advanced at all in our treatment of some conditions as Fallopius in the 16th Century first used the wire snare for nasal polpyi which is still used to-day, 300 years later.

This text is concerned not only with ancient history but contains sketches of the medical giants of last century, such as Adam Politzer, St. Clair Thomson, Semon and many others. This is, perhaps, the most interesting part of the book, which can be recommended to all interested in the history of medicine in general.

ESSENTIALS OF DERMATOLOGY

Essentials of Dermatology. By Norman Tobias, M.D. (Pp. 518 + xvi. With 181 illustrations. 36s.) London: J. B. Lippincott Co. 3rd ed. 1948.

Contents: 1. Basic Survey. 2. The Erythema Group. 3. The Eczema Group. 4. Drug Eruptions. 5. Psoriasis. 6. The Toxic Bullous Diseases. 7. The Pyodermas. 8. Diseases due to Vegetable Parasites. 9. Diseases Due to Animal Parasites. 10. Diseases Due to Filtrable Viruses 11. Diseases Due to Psychosomatic and Nerve Disorders. 12. Lichen Planus. 13. Diseases Due to Physical Agents. 14. The Deep Infective Dermatoses. 15. Tuberculosis of the Skin. 16. Syphilis. 17. Benign Tumours of the Skin. 18. Malignant Growths of the Skin. 19. The Metabolic Dermatoses. 20. The Atrophies of the Skin. 21. Scleroderma and Allied Diseases. 22. The Vascular Diseases of the Skin. 23. Pigmentations. 24. Cutaneous Lymphoblastomas. 25. The Erythroderias. 26. Diseases of the Hair and Scalp. 27. Diseases of the Sebaceous Glands. 28. Diseases of the Sweat Glands. 29. Diseases of the Nails. 30. Diseases of the Mucous Membranes. 31. Congenital Disorders. 32. Dermatologic Therapeutics.

In spite of the rapidly accumulating number of dermatological textbooks, Dr. Tobias' *Essentials of Dermatology* will be welcomed by all interested in the subject, especially general practitioners and students.

Recent advances and changes in the teaching and practice of dermatology have been so numerous that new editions of textbooks are essential if they are to be up to date. We find here discussions on the anti-histamine drugs, the newer penicillin technique in the treatment of syphilis and chapters on the phycho-somatic aspects of skin diseases.

A feature of this book is the tabulation of differential diagnosis which, apart from the virtue of space saving, is informative and effective.

The dangers of local sulphonamide medication are stressed, as is also the need for less routine X-ray therapy in dermatology. For plantar warts, however, X-rays are recommended as the optimum treatment. This is, of course, in conformity with all modern authorities.

Minor omissions occur. Many of these are obviously due to the necessity of compactness, but others must be oversight,

e.g. benzocaine, a common ingredient of lozenges, is omitted in the list of drugs causing stomatitis, and no mention is made of the nicotinamide treatment for lupus erythematosus.

The photographs are excellent and instructive, but the colour plates are disappointing.

The therapy section will prove helpful to the busy general practitioner. He will find useful prescriptions with clear instructions about their use. Dr. Tobias is obviously not afraid of using phenol 2% as an anti-pruritic application in his ointments and creams.

In order to be concise the author must perforce be somewhat dogmatic and many dermatologists might not agree with all the views expressed. It is this very conciseness that makes this book an effective working manual for the general practitioner and the over-burdened medical student.

ORTHOPTICS

The Practice of Orthoptics. By G. H. Gilles, F.B.O.A., F.S.M.C. (Pp. 407. With illustrations and figures. 30s.) London: Hammond, Hammond & Company, Limited. 2nd ed. (revised). 1949.

Contents: Part I. Introduction to the Practice of Orthoptics. 1. The Basis of Orthoptic Treatment. 2. Routine refractive examination. 3. The refractive error in Squint and Heterophoria. 4. The recognition of unfavourable cases of Strabismus. 5. The recognition of favourable cases of Strabismus—Routine Examination (1). 6. The Routine Examination (2). 7. The Selection of Orthoptic Cases of Strabismus. 8. Heterophoria—Detection and Measurement. 9. The Selection of Heterophoria Cases suitable for Orthoptic Training. 10. The measurement of the Fusional Reserves. 11. The Mental Effort. 12. The Psychological Approach to Squint Treatment.
Part II. The Clinical Practice of Orthoptics. 13. The Treatment of Concomitant Strabismus in Outline. 14. The Treatment of Concomitant Strabismus in Detail. 15. Amblyopia, Occlusion, and Abnormal Retinal Correspondence. 16. The Treatment of Strabismus in Young Children. 17. The Treatment of Special Types of Strabismus. 18. The Orthoptic Treatment of Horizontal Heterophoria. 19. The Orthoptic Treatment of Hyperphoria, Cyclophoria, and Convergence Insufficiency. 20. The Use of Prisms and Lenses in Orthoptic Practice. 21. The Orthoptic Treatment of Service Candidates. 22. Naturopathic Methods: A comparison with Orthoptics. 23. Glossary

This work by a lay practitioner of wide experience, now in the second edition, has been acclaimed vociferously by optical journals as an outstanding treatise. It has also been well received by the medical press, and rightly so.

The book is, in fact, very comprehensive in its scope. Orthoptics, although properly a department of ophthalmology, is probably practised by far more laymen that doctors, usually quite independently of the medical side. These practitioners gain a vast amount of experience in refractive and orthoptic technique, but they inevitably lack a medical background.

There is no doubt about the thoroughness with which experienced orthoptists tackle their problems. This book covers the whole subject of orthoptic technique widely and, in fact, deals in detail with refractive as well as diagnostic procedures. It is on the score of the latter that one must take a critical view. The scope of orthoptics is limited and well defined and very few lay orthoptists are in a position to sift their cases properly.

The first part of the book deals with refraction, diagnosis of squint and the selection of suitable cases. The exhaustive physical examination of the eye and its adnexa advocated by the author is no less than that required of a painstaking ophthalmologist. The routine 'refractive' examination requires a record chart of prodigious size and would appear to take several hours. There is a sincere attempt to separate pathological from functional defects of muscle balance and to eliminate unfavourable cases of squint, i.e., unfavourable for orthoptic treatment. Even exophthalmic goitre and brain tumour are cited as causes of diplopia, but apparently not as causes of paralytic squint. There is a chapter on the psychological approach to orthoptic treatment.

The second part of the book covers the whole field of practical orthoptics in a polished manner. An interesting chapter is *A Survey of Naturopathic Methods in Comparison with Orthoptics.* This refers largely to the teaching of Bates and his disciples, and a very moderate and patronising attitude is taken, 'orthoptically' speaking. The tail-end of the book gives a glossary, a collection of home exercises and a variety of statistical surveys.

The whole book is indeed comprehensive; it contains much in the way of excellent orthoptic theory and practice, but very little that is new. Much of the text belongs properly to a medical textbook. Much of it is pure refraction and optics in detail. It is pleasantly printed with many photographs and illustrations and there are numerous case histories, in somewhat unnecessary detail. Having persevered through the text toward the end, one can but smile at this passage: 'Expensive instruments are useful ... they are by no means essential ... the whole essence of modern orthoptics lies in its simplicity'.

This book has a definite place in any orthoptist's library, but for the ophthalmic surgeon such a book as Lyle and Jackson's *Practical Orthoptics in the Treatment of Squint* is a far safer bet.

BOURNE'S OBSTETRICS AND GYNAECOLOGY

A Synopsis of Obstetrics and Gynaecology. By Aleck W. Bourne, M.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), F.R.C.O.G. (Pp. 530 + vii. With 167 illustrations. 21s.) Bristol: John Wright & Sons, Ltd. 10th ed. 1949.

Contents: Part I. A Synopsis of Obstetrics. 1. Normal Pregnancy. 2. Abnormal Pregnancy. 3. Normal Labour. 4. Abnormal Labour. 5. The Puerperium and the New-born Child. 6. Obstetric Surgery.
Part II. A Synopsis of Gynaecology.

This book conforms to the general pattern of the 'Synopsis' series. The new tenth edition has been extensively revised, and many recent developments in obstetrics and gynaecology, which are considered by the author to have come to stay, have been incorporated in this edition. The chapter on the development of the early ovum has been re-written. Erythroblastosis, a condition which is becoming very complex these days, is presented in a lucid and succinct manner.

It is to be regretted that the terms 'toxaemia albuminuria' and 'albuminuria due to pregnancy toxaemia', have been retained in this edition. Albuminuria is rarely evident in the earliest stage of the disease; it is not always present in the later stages. The modern term 'pre-eclamptic toxaemia' is definitely preferable. Chronic glomerulonephritis, if it occurs at all, must be a very rare sequel to eclampsia.

This comprehensive volume may be recommended to both the student preparing for his final examination and the busy general practitioner. In the case of the former, however, it is well to emphasize that this type of book is purely intended as a supplementary source for acquiring knowledge: it can never replace the clinic and the ordinary fuller textbook.

DR. THOMAS B. GILCHRIST: AN AUTOBIOGRAPHY

The Autobiography of Thomas B. Gilchrist, M.B., C.M., M.D., D.P.H., F.R.F.P. & S., D.T.M. & H. (London). (Pp. 55. 5s.) South Africa: Central News Agency Ltd. 1949.

Contents: 1. My Early Life. 2. University Days. 3. At Work. 4. Previous to the Outbreak of the Boer War. 5. Boer War Experiences. 6. The Concentration Camps. 7. The War of 1914. 8. My Experiences in Mauritius. 9. The Trip to China, Japan and India. 10. My European Trip. 11. South Africa during 1939-1945. 12. My Canadian Trip—1947. 13. Appendix.

The many friends, colleagues and acquaintances of the late Thomas B. Gilchrist will be extremely interested to know that this autobiography was completed by the author and was actually in the press when his lamented death occurred in July 1949. Dr. Gilchrist wrote this volume as a result of a promise made to his many friends that when he retired he would write his reminiscences.

It is to be regretted that the publishers saw fit to design this volume in such an unattractive fashion. However, the special interest which his friends have in Dr. Gilchrist's autobiography will do much to compensate for this serious defect.

CORRESPONDENCE

WHO STAFF RECRUITMENT

To the Editor: The World Health Organisation is anticipating the need during the coming months for additions to its staff in certain types of positions.* It would be greatly appreciated if the contents of this announcement could be brought to the attention of qualified persons who might be willing to make their services available to the World Health Organisation.

Any prospective candidates should be instructed to communicate direct, as soon as possible, with the Office of Personnel, WHO, Geneva, Switzerland.

This material is being sent to you in a single copy only in view of the excessive cost of supplying additional copies by airmail.

We shall be most grateful for your assistance in this regard.

Brock Chisholm, M.B.,
Director-General.

Organisation Mondiale De La Sante,
Geneve.
24 January 1950.

[* Further information can be obtained from the Secretary for Health, P.O. Box 3879, Cape Town, about the following prospective appointments: Maternal and Child Health Experts; Medical Officer (technical); Medical Officer (nutrition); Medical Officer (Deputy-Chief of Malaria Section, Headquarters); Entomologist (Malaria Control Demonstration Team); Malariologist (Leader of Malaria Control Demonstration Team); Sanitary Engineer (Malaria Control Demonstration Team).—*Editor.*]

DIE 2E S.-A. KONGRES VIR LIGGAAMLIKE OPVOEDING

Aan die Redakteur: Op die 2e S.-A. Kongres vir liggaamlike opvoeding, wat onlangs in Kaapstad en Stellenbosch plaasgevind het, is die samewerking van die mediese professie en die liggaamlike opvoeders bespreek. Hier volg 'n kort samevatting van die diskussies oor daardie gedeelte van die agenda.

1. *Mediese toesig op die liggaamlike opvoeding op skole.* Aangesien liggaamlike oefeninge skade kan doen aan die gesondheid van kinders wat 'n siekte onder lede het of 'n afwyking het, b.v. aan die sirkulasie apparaat, wat nie opgemerk is nie, is reëlmatige mediese toesig noodsaaklik. Volgens opgawe van Dr. L. v. D. Cilliers, hoof mediese inspekteur vir Kaaplandse skole, sal sy staf drie keer so groot moet wees om alle kinders jaarliks te ondersoek.

Die kongres het, op voorstel van Dr. D. H. Craven, Stellenbosch, aangeneem om die Onderwys Departemente te versoek die mediese staf uit te brei.

2. *Invul van groeiroosters verpligtend maak.* 'n Groot uitbreiding van die mediese staf in die naby toekoms, moet onwaarskynlik geag word. Daarom het Dr. J. W. Postma, Stellenbosch, voorgestel om die reëlmatige meting van liggaamslengte en gewig vir al die onderwysers in liggaamlike opvoeding, wat verbonde is aan skole, verpligtend te maak, met die oog op die byhou van groeiroosters (grids). Volgens N. C. Wetzel, M.D., is 'n verskuiwing uit die normale groeikanaal op 'n grid', 'n aanduiding vir die noodsaaklikheid van mediese ondersoek. Die ervaring wat opgedoen is by die Liggaamlike Opvoeding Brigade in Kimberley, bevestig hierdie opvatting. Groeikontrole, in die vorm groeiroosters, gee dus die liggaamlike opvoeders 'n instrument in hande om op die spoor van afwykings of siektes te kom en die hulp van die medikus in te roep.

Sodra rapporte ingekom het oor die vraag aan watter groeirooster die voorkeur gegee moet word, die Amerikaanse van Wetzel, of die Suid-Afrikaanse van E. Jokl, M.D., Pretoria (sien *Manpower*, September 1945), sal die Onderwys Departemente versoek word om dié groeikontrole in te voer.

3. *Buro's vir ondersoek van sportmense en opleiding van sportartse.* Talle van gevalle van instorting tydens of na sportbeoefening, dikwels met fatale gevolge, is bekend (b.v. mechanisms involved in acute fatal nontraumatic collapse associated with physical exertion, Jokl and Suzman, *Amer. haert journal*, June 1942). Gewoonlik is die aanwesigheid van een of andere siekte die oorsaak hiervan. Dergelike persone moes nie aan wedstrydsport deelgeneem het nie.

Aangesien afwykings as gevolg van ooreising, in baie gevalle eers op latere leeftyd merkbaar is, is die verantwoording wat rus op die onderwysers wat belas is met skoolsport, baie groot. Ondersoek van sportbeoefenare deur sportartse is dus in die algemeen wenslik; vir die skoolsport is dit egter hoogsnoodsaaklik. In navolging van die buiteland sal buro's vir mediese ondersoek van sportmense gestig moet word en mediese studente sal geleentheid moet kry om kennis te neem van die sporthigiëne.

Die kongres het besluit om hierdie kwessie onder die aandag te bring van die Mediese Vereniging van Suid-Afrika en van die Onderwys Departemente en hulle te versoek om steun te verleen by die stigting van dergelike buro's en by die poging om Universiteite, wat mediese fakulteite het, te beweeg om kursusse vir sportartse in te rig.

4. *Stigting van Vereniging vir Gesondheid, Liggaamlike Opvoeding en Ontspanning.* Aangesien die drie laasgenoemde gebiede so nou met mekaar verbonde is, is die wenslikheid gevoel om 'n vereniging te stig wat al drie omvat.

Die doel is om die belangstelling vir hierdie gebiede te vergroot en om mee te werk aan die bevordering van die gesondheid in die algemeen, die liggaamlike opvoeding (veral op die skole) en die ontspanning van die volk.

Die vereniging wil die werk van die Nasionale Adviserende Raad vir Liggaamlike Opvoeding, van die Onderwys Departemente en van ander liggame wat hulle op die gebiede van gesondheid, liggaamlike opvoeding en ontspanning beweeg, ondersteun. Waardevolle werk kan gedoen word b.v. deur die bevordering van mediese toesig op sportbeoefenare, die koördinasie van die propaganda en die uitbreiding van die program van die liggaamlike opvoeding op skole en die ontwikkeling van die ontspanning van die publiek wat nie in klubs georganiseer is nie.

Elke persoon wat belangstel in die gesondheid, liggaamlike opvoeding of ontspanning van die Suid-Afrikaanse volk, kan lid word van die vereniging. Die voorsitter is Dr. Danie Craven; sekretaris is Dr. J. W. Postma, Banhoekweg, Stellenbosch.

J. W. Postma.

Departement van Liggaamlike Opvoeding,
Universiteit van Stellenbosch,
Stellenbosch.
13 Februarie 1950.

STREPTOMYCIN IN INFECTIVE DIARRHOEA IN CHILDREN

To the Editor: I have recently had two severe cases of infective diarrhoea in children. Both reacted in a most dramatic fashion to streptomycin intramuscularly.

Case 1. C. H., a European male aged four years, gave a history of diarrhoea of 12 hours' duration. The temperature was 103° F. The stool consisted entirely of blood and mucus which was running from the rectum due to loss of sphincter control. The eyes were sunken and the child lay absolutely quiet.

Treatment: Streptomycin 0.5 gm. was given intramuscularly at 6 p.m. The mother states that after about 1 hour the child looked and felt better and cooler. The next morning the child was cheerful and asking for food. The temperature was normal. Another 0.5 gm. of streptomycin was given. The diarrhoea was less, and the following day it had stopped. No more streptomycin was given.

Two days later the temperature again rose to 101° F. and the diarrhoea started again, but was completely controlled by two injections (at a 12-hour interval) of streptomycin 0.5 gm. The only other treatment was sulphaguanidine, which the child refused to take properly, so that actually very little of it was taken.

The patient made a complete recovery and now after two months is perfectly well.

Case 2. P. F., a European female aged 6 years, was sent home from school the previous day with a temperature of 104° F. (This temperature was taken at school.)

She complained of diarrhoea, biliousness and abdominal pain. The temperature later in the afternoon was, according

to the mother (who is a reliable person) 106° F. The mother sponged the child and gave her aspirin gr. 5. I saw the child an hour later. Her temperature then was 104.8° F. The abdomen was soft and tender. The stool was a thin, greenish fluid. Stools were passed frequently and in small quantities and escaped from the bowel on to her clothes when she coughed. Nothing else abnormal was found.

Treatment: Streptomycin 0.5 gm. was given at 6 p.m. The temperature at 10 p.m. came down to 101.5° F., and at midnight was 99.8° F. The next morning it was normal. Streptomycin 0.5 gm. was given.

At 5 p.m. the temperature rose to 99.8° F., though the diarrhoea was very much less and was yellowish-green in colour. Streptomycin 0.5 gm. was then given (third injection).

The following morning the temperature was normal and a small stool of a creamy consistency and brown in colour was passed. A fourth injection of 0.5 gm. of streptomycin was then given. No further treatment was found necessary and the child made a complete recovery.

Streptomycin was the only therapeutic agent used in this case.

B. Berrill.

Security Building,
Exchange Place,
Cape Town.
22 February 1950.

The Cost of Hearings Before the Medical Council

To the Editor: It is with amazement and shame that I pen these words after having received the notice from the Atlas Insurance Company which states that: 'We have agreed to extend our doctor's liability policies to include an indemnity in respect of legal costs incurred in connection with hearings before the Medical Council or at appeals in the Supreme Court arising therefrom.' Here we have this amazing official admission that the individual medical practitioner must be protected against his own Medical Council on which his own nominees are sitting. What went wrong with the profession in South Africa that such a state of affairs exists? Is it that certain men and women are being registered who are obviously not fit morally to be on the register, or is there something wrong with the Medical Council?

It seems incomprehensible that this state of affairs was non-existent only about 10 years ago, and it is difficult to suggest that the general moral standard of the profession, on the whole, has deteriorated to such an extent as to make it imperative for the Medical Council to adopt Draconic measures.

But it seems also incomprehensible that such a state of affairs should be permitted in an allegedly democratic country. One must feel greatly distressed that such a state of affairs has developed as to permit the Federal Council of the Medical Association to institute this protection for their members. It is obvious that many accusations of the Medical Council are actually without sufficient foundation, otherwise our Federal Council could not have any moral basis for this measure that has been taken. Surely it is not beyond the profession to ask for an inquiry, and one more commission will hardly be noticed in South Africa. Besides, there is enough money for such a commission, considering the levy paid in for the profession's administration.

Our thanks are due to the Insurance Company which accepts this additional risk, and which must be real to them, without increasing the premium. It is well known that such innovations by Insurance Companies are not made without very careful investigation and the most careful consideration of legal implications. They no doubt rely on the mistakes made by the Medical Council in the past, which will enable them to recover legal costs from the Medical Council, otherwise there is no reason to give this cover without any additional charge.

The question must be asked: Are we going to allow this state of affairs to continue, or are we going to start organizing our forces for the next election? There are no doubt numbers of most suitable younger medical men who will undertake to change this state of affairs, if elected. The suggestion for a Chartered Society on the lines of the legal fraternity was made long ago at a Branch meeting in Johannesburg. It seems that there is every reason to endeavour to establish such a Society at the earliest possible moment.

O tempora! O mores!

3 March 1950.

Racial Discrimination and Advertisements

To the Editor: I am amazed at the tone of the letter from Dr. B. Epstein published in your issue of 4 March 1950. I fail to see why he should object to an advertiser expressing 'racial preference', but on the other hand see several reasons why he should state his likes and dislikes.

At the outset I must emphasize that I am in no way an upholder of racialism, and see no advantages to be derived from such doctrines.

Surely an employer is entitled to any and all information he may desire in choosing an employee, and if he or she has fads and fancies, it is best for all concerned that they be known beforehand. I can imagine nothing more unpleasant than working for anyone who is racially opposed to me.

From the prospective applicant's point of view I can speak with feeling. Some years ago I wished to enter a medical practice. Negotiations were conducted by a firm of solicitors, who subjected me to a 'third degree' inquisition about character and previous professional experience. As I passed muster, an introduction was arranged, and when the principal discovered that I was not Jewish, he terminated the discussions, as he wished for a Jewish partner. Had I been apprised of this fact at an earlier stage, I should have been saved much trouble and disappointment.

I trust that your acceptance of advertisements will grow more 'pusillanimous', whereby employers will be encouraged to display the fullest information, so that those seeking jobs may be better able to choose and know which to avoid. Also the employer's point of view should be considered. I am reminded of a nursing home in South London which advertised for a matron. The best candidate 'on paper' was asked to attend for an interview, when it was found that she would be quite unacceptable to the nursing staff, local doctors and patients by virtue of the fact that she was an American negress.

Finally, I would remind Dr. Epstein that 'racial discrimination' is not peculiar to advertisements appearing in the *South African Medical Journal*. Members of certain races are debarred from holding commissions in such institutions as the Royal Navy and the South African Medical Corps, or even voting for those seeking election to Parliament in the Union of South Africa.

Allan B. Swarbreck.

503, Cavendish Chambers,
183, Jeppe Street,
Johannesburg.
8 March 1950.

Fifth International Congress of Scientific Research

To the Editor: I have the honour to inform you that the International Union against Cancer is organizing the Fifth International Congress of Scientific Research and of the Social Fight against Cancer, to be held in Paris from 15-22 July 1950.

Numerous festivities, as well as excursions to Museums, have been arranged for the associate members (those accompanying the Congressionists).

This Congress will be followed by the Sixth International Congress on Radiology, which is to be held in London during the week following the Paris Congress.

This Department has been requested by the French Embassy in the Union of South Africa to advertise the Congress on Cancer as widely as possible. It would accordingly be much appreciated if you would take steps to publicize this Congress.

Secretary for External Affairs.

Department of External Affairs,
Pretoria.
17 March 1950.

[A pamphlet in connection with this Congress may be borrowed on application to the Editor.]